SPRING 2001

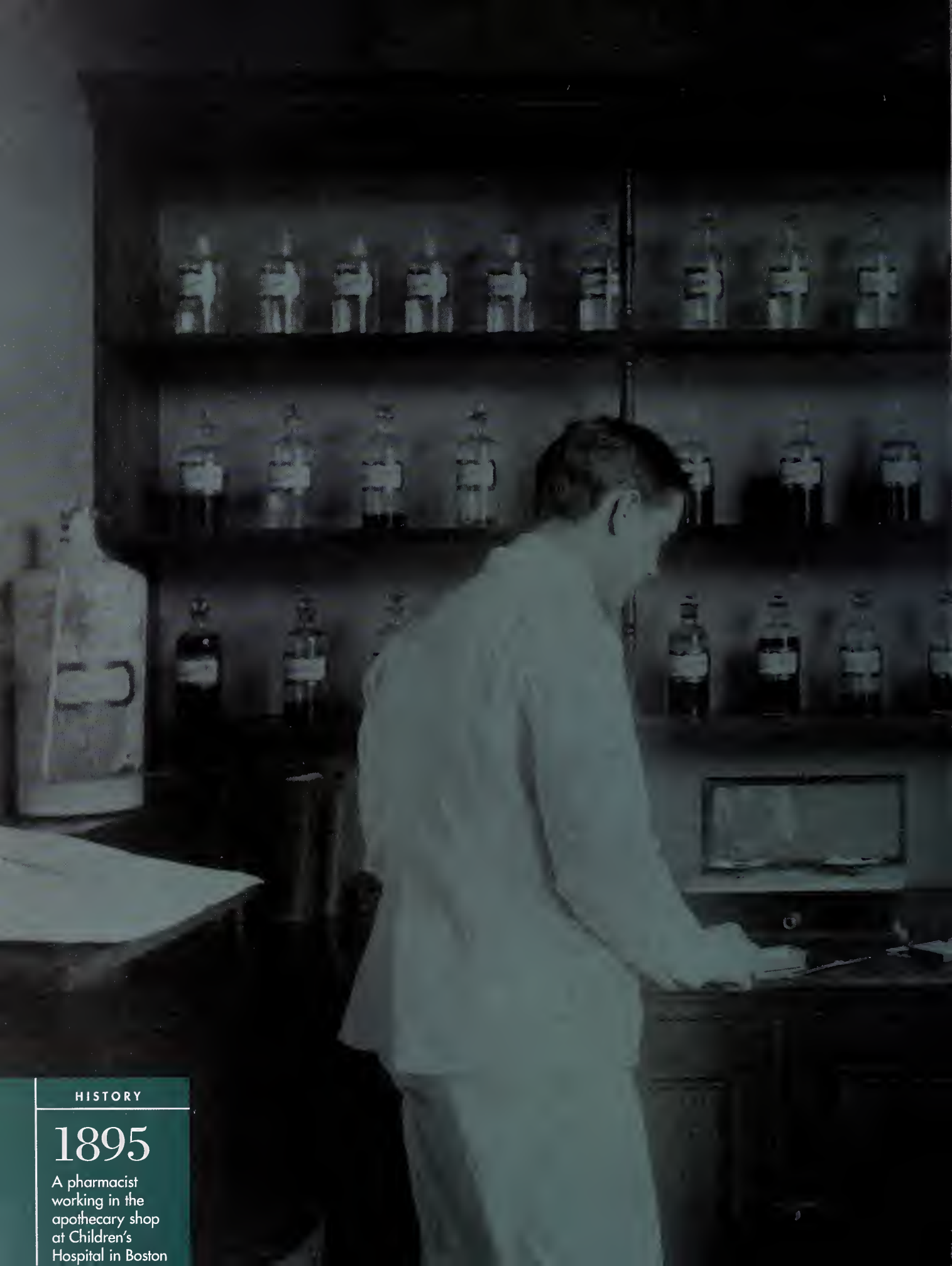
Harvard Medical

ALUMNI BULLETIN

Unsung Heroes

Physicians provide the underserved with care and compassion

Harold May '51 with daughter Alison '91



HISTORY

1895

A pharmacist working in the apothecary shop at Children's Hospital in Boston

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Cover photograph of Harold and Alison May by Tim Gray

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In this Issue

WHEN WE FIRST GAVE THIS ISSUE OF THE *BULLETIN* THE WORKING TITLE "Unsung Heroes" we quickly realized that there are myriad forms of heroism in medicine, virtually all of them unsung. Who could be more the heroine of her own life, to paraphrase Dickens, than a typical woman physician raising children? On this occasion, we decided we would focus on physicians who have taken physical, political, economic, or emotional risks to provide care for underserved populations.

That settled, we soon found that no one was volunteering to have his or her story told in our pages. Some potential subjects politely refused; others simply didn't return telephone calls. Still others seemed to have no fixed address, to be always leaving for another continent or an endangered neighborhood around the corner. Those whom we rounded up, and who appear in this issue, agreed in response to a degree of personal badgering on our part—and, I think, because this seemed to be a decent means to a good end: to use their own stories as a vehicle for telling their patients' stories.

In reading these narratives—the physicians' and the patients'—what soon struck me was the utter falseness of a dichotomy I have long taken for granted, that service and research are somehow different. These are stories of service, over and over again, and what shines through is the extraordinary amount of intellectual effort required to provide good service to patients who are not schooled in the mores of proper patienthood or are not provided with the wherewithal to be taken care of in conventional settings. It may be a problem of cross-cultural semiotics: the physician attending a stoic, elderly Vietnamese man must learn that he communicates his pain and terror not with grimaces but by the presence of family members. It may be a problem of political economy: the retired physician who wishes to volunteer his services to the indigent must analyze an elaborate system of well-intentioned regulations that work to preserve the very gap in care that everyone wishes could be filled. Such research may lack controls and clones, but it represents a very real foray into new areas of knowledge and a brave form of inquiry.

As noted on page 5, the *Bulletin* was recently named a finalist for the National Magazine Award in General Excellence in the category of magazines with a circulation of less than 100,000. In the magazine world, these awards are the equivalent of Pulitzer prizes. The actual award was given to *The American Scholar*, whose editor, Anne Fadiman, is the author of *The Spirit Catches You and You Fall Down*. We are proud to be in this company, and I congratulate the editors of the *Bulletin*, Paula Byron, Beverly Ballaro, and Susan Cassidy, as well as former associate editor Phyllis Fagell, and our design director, Laura McFadden, who have made this alumni magazine a serious contender for such an award.

William Ira Bennett

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War Stories

I read with great interest your article "When HMS Went to War" in the summer issue of the *Bulletin*. My father, Bertram Trelstad, MD, was neither an HMS alumnus nor a faculty member, but by the vagaries of that time, he ended up being linked to the 105th beginning at Fort Lewis and staying with them throughout a three-year period in Australia and New Guinea.

In 1966, when I graduated from HMS, my dad mentioned that Albert Coons '37 had once been one of his colleagues. I had gotten to know Dr. Coons moderately well as a medical student, but he had never mentioned anything about my father or the 105th. One day, unannounced, we knocked on his office door in Building D. A voice invited us in, and when the door swung open, Dr. Coons glanced up and said, "Hi, Bert." I sat dumbfounded for the next hour listening to stories that my father had never told my brothers or me.

Later during the graduation events, we spent a lovely evening with Dr. and Mrs. John "Jack" Newell '30 at their home and then at the Harvard Club. That evening, Jack and my father reminisced about getting mail through the censors. Jack recounted how he had written his wife to let her know that they'd moved and where they actually were. The name of the new site—Toowomba in Queensland, Australia—was, phonetically, "two wumba." Being a gynecologist, Newell drew a picture on his letter of a bear with a bicornuate uterus—a "two-wombed bear." This got through the censor and Jack's wife decoded the message. Many laughs.

ROBERT L. TRELSTAD '66
NEW BRUNSWICK, NEW JERSEY

HARVARD'S HEROES: The hospital flagpole at Biak in New Guinea, where the 105th General Hospital formed a surgical mobile unit during World War II. Many HMS alumni and Harvard-affiliated hospital staff members served in the 105th.

Passage to India

Reading the obituary page is generally a sobering pastime, but I discovered recently, to my surprise, that there are exceptions. In the autumn issue of the *Bulletin*, I came across the name of Reeve Betts '33. It sounded familiar and piqued my curiosity but I could not imagine why. I was sure that somewhere I had known him, but try as hard as I could to place him, nothing happened.

Then I read the entry and began to laugh. In Seattle more than half a century ago, I boarded a freighter that was bound for Singapore. Among the little cluster of 12 passengers was a remarkable family named Betts who were making their initial passage to India. Reeve, I remember, planned to start a new career as medical missionary in Vellore. His kids were lively, entertaining, and well-behaved, and his wife, Martha, was a jewel. Like most freighter passengers who make a long ocean crossing, we bonded and promised to keep in touch. But we did not. After I said goodbye to them, I wondered for a long time about their fate.

Now, 50 years later, thanks to your magazine, I have learned the happy ending to the story. Even though Reeve and Martha are gone, I still think warmly of their three little children, who are now quite grown up. I wonder if they remember the journey and our encounter aboard ship.

EDWARD SMITH '38
WALNUT CREEK, CALIFORNIA

The Kindness of Strangers

After reading Mark Adickes's speech "From Jock to Doc" in the autumn issue, I fondly remembered my husband's startling story of his acceptance to HMS in the fall of 1946: Robert Stier Morrison '50, a World War II veteran and Missouri native, was visiting a girlfriend (not me)

in Boston in August 1946. He had been accepted at the Washington University School of Medicine in St. Louis. Having some free time on his hands, Bob dropped in on the dean of HMS for a chat about medicine, career paths, and research. At the end of the talk, Bob was informed that HMS would be happy to accept him into the Class of 1950! This was a life-changing moment that delighted Bob then and filled his life and work with pride from that day until he died in 1991.

MARIE (REE) MORRISON
WALNUT CREEK, CALIFORNIA

Making Up for Lost Time

It is noted on the autumn *Bulletin* cover that the Class of 2000 and that of 1999 both graduated more women than men. This is of some interest, as the first class to admit women was 1949 and the second 1950. They were few in number and resented by a small number of faculty. Other schools had been graduating women before the turn of the century. Harvard is beginning to catch up!

JOHN EATON '50
MAMMOTH LAKES, CALIFORNIA

A Balanced Life

In 2001 it is easy to forget how the early women graduates of HMS had to find their way professionally with few role models and scant social support for combining their careers with family life. In contemporary terms, these women had to invent and then reinvent themselves to meet their opportunities and challenges.

Mary Smythe Coley '54, whose obituary appeared in the summer issue of the *Bulletin*, was a particularly good example of a pioneering woman who reinvented her life and her career more than once. She trained as a pediatrician, made a life as a wife and the mother of three children, and in mid-life created a new professional identity as a child psychiatrist. She also had a full life of community service, which extended to the time of her death.

Having briefly sampled science as a laboratory technician, she entered HMS in the sixth class to admit women. That was midway in a ten-year experiment to see if women could succeed at HMS. To her classmates she was a studious, thoughtful colleague, balancing the advantage of her maturity with a ready wit and capacity for hard work. After an internship in pediatrics at Massachusetts General Hospital, she began a complicated pattern that she described in her 15th reunion report as a sequence of full-time residency, part-time residency, part-time clinical employment, and "multiple involvements that go with family living in suburbia." That pattern, typical of the women physicians of her time, was a triumph of ingenuity and energy.

BEFORE HER TIME

Mary Smythe Coley '54 was a particularly good example of a pioneering woman who reinvented her life and her career more than once.

ELEANOR G. SHORE '55
MILES F. SHORE '54
NEEDHAM, MASSACHUSETTS

In her reunion report of 1974, Mary applauded the "increase in humanitarian versus scientific attitude among students," reflecting the balance in her own life between her profession, her family, and community interests. Twenty-five years after graduation, she had once again increased her professional commitments, combining pediatrics with community service. The flexibility to meet such special community needs was a little-appreciated byproduct of the special nature of women's careers in medicine at that time.

Mary's pediatric practice in the community opened her eyes to the multiple factors that contributed to patients' needs, and she decided on further training in child psychiatry. With her children grown (one an intern in medicine at MGH), she moved to Boston for residency training in a Massachusetts Mental Health Center affiliated program and completed her child psychiatry fellowship at Brown. Trained in both adult and child psychiatry, she returned to Hartford to construct an active life of private practice, teaching, and consulting at the Institute of Living, along with serving as a psychiatric consultant for The Street Ministry of West Hartford. The director wrote at the time of her memorial service, "With the changes in mental health insurance coverage, she became an invaluable backup for The Street Ministry....She was smart, insightful, and compassionate. She supported kids, parents, school personnel, and The Street Ministry as she sought to make sure that no child in West Hartford went without access to mental health treatment. Mary cared."

Like so many of the early HMS women, Mary's reinventions of herself left her realistic about the past but pleased with the life she had created. In her last reunion report, in the year before she suddenly died with a pulmonary embolus, she wrote: "I regretted not being able to do training as fast as it was possible when raising children. I am glad now that the larger system is coping better with the needs of women physicians with a different community attitude—much better day care and preschools. It's all more positive. However, I went in the direction I wished: pediatrics, then psychiatry, and now child and adolescent psychiatry—and that is fine."

ELEANOR G. SHORE '55
MILES F. SHORE '54
NEEDHAM, MASSACHUSETTS

The Bulletin *welcomes letters to the editor. Please send letters by mail (*Harvard Medical Alumni Bulletin, *25 Shattuck Street, Boston, Massachusetts 02115); fax (617-432-0013); or email (bulletin@hms.harvard.edu). Letters may be edited for length or clarity.*

Building a Foundation for the Future

In February, HMS dean Joseph Martin welcomed city, community, and university dignitaries and more than 100 invited guests to the ceremonial groundbreaking for the School's new research building on Avenue Louis Pasteur. Anchoring the campus's new North Quad, the structure will add about 430,000 square feet of research space to the School, including a ten-story tower. The new building will help meet demand for facilities that support the advanced investigations being conducted at HMS and its affiliated institutions, including initiatives on Alzheimer's, diabetes, heart disease, stroke, infectious diseases, and cancer. The building is slated for completion in 2003.

The $250 million project includes research space being designed with adjacent laboratories housing related work and sharing core facilities that are too expensive for a single faculty member to maintain independently. Such core facilities are a hallmark of the interdisciplinary research being conducted at HMS.

The research building will also provide common areas—such as kitchens and lounges—for fostering the informal discussion that is at the heart of much scientific collaboration. "This is a wonderful opportunity to get a group of like-minded researchers together on a more intimate basis—great things happen around those water cooler conversations," said Susanne Churchill, associate dean for research. Adjacent floors between the new building and the Harvard Institutes of Medicine will be connected by causeways and will, in many cases, contain similar research functions.

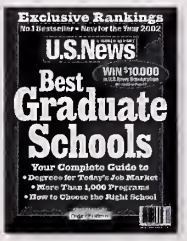
"Biomedical research is at a threshold of opportunity based on genomic research and other breakthroughs," Martin said at the ceremony. "By having hospital-based faculty and basic scientists work side-by-side, the translation of research from bench to bedside will be hastened." ■

PHOTO: STEVE GILBERT

DIGGING IN: Lending a hand at the groundbreaking for the Medical School's new research building are, from left: Mark Maloney, director of the Boston Redevelopment Authority; Harvard University President Neil Rudenstine; Boston Mayor Thomas Menino; and HMS Dean Joseph Martin.

Still the One

For the 12th consecutive yeor, HMS hos been ronked os the best American reseorch medicol school by *U.S. News and World Report.* The School's progroms in women's heolth, geriotrics, ond internal medicine were ronked number one in the specialty rankings, while the pediotrics progrom wos ronked second. The programs in drug ond olcohol obuse ond AIDS were both tied for the number two ronking with Johns Hopkins.



We're Honored

This spring, the *Harvard Medical Alumni Bulletin* wos named a finolist for the Notionol Mogozine Award in Generol Excellence, the mogozine industry's most prestigious oword. In the cotegory for mogazines whose circulations ore under 100,000, the *Bulletin* was honored for its speciol issues on medical ethics, medicol detectives, ond physicion renewol.

The *Bulletin* olso received o merit oward from the Society of Publicotion Designers in an annuol competition thot ottrocted nearly 8,000 submissions. The oword wos conferred for the cover design of the Winter 2000 issue, "Medicol Ethics: From Conception to Death," which featured o tiny baby being cradled in o man's hands.

Finolly, the *Bulletin* received o bronze medal from the Council for the Advoncement and Support of Education in the category of periodical stoff writing.


A

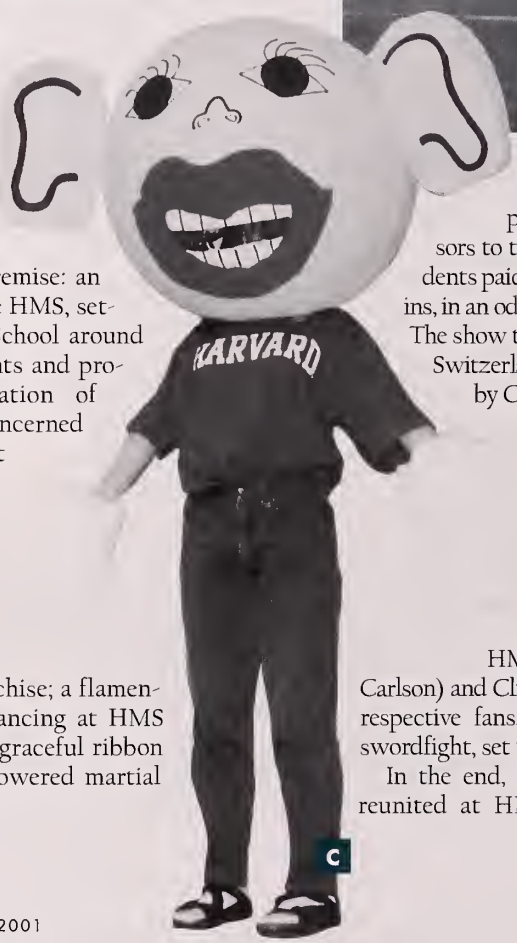
B

The MEC Shall Inherit the Earth

LIGHTS! COSTUMES! MAKEUP! NO, IT'S NOT BROADWAY, IT'S the HMS Second Year Show, "Corporate Looteum: The MEC Shall Inherit the Earth"—a three-hour musical extravaganza that showcased the diverse talents of the Class of 2003.

It was inevitable that this year's parody of life as a second-year student at HMS would focus on the School's new dean for medical education, Daniel Lowenstein '83 (portrayed by Taylor Ortiz). But his predecessor, Daniel Federman '53 (Eric Rosenthal), made his presence known as well. The show's premise: an "evil" Federman decides to franchise HMS, setting up second-rate copies of the School around the globe to lure away HMS students and professors—much to the consternation of Lowenstein, who sends a group of concerned students on a mission to find out what's going on at these "other" Harvard Medical Schools.

This setup gave the Class of 2003 an opportunity to celebrate the cultural offerings of various international locales. Audiences were treated to traditional dance at the HMS India franchise; a flamenco number at HMS Spain; salsa dancing at HMS Puerto Rico; and at HMS China, a graceful ribbon dance that morphed into a high-powered martial arts display.



C

And then there were the songs, which parodied everything from individual professors to the New Pathway curriculum. Female students paid tribute to anatomy professor Farish Jenkins, in an ode sung to the tune of Madonna's "Cherish." The show took a swipe at materialistic MDs at HMS Switzerland, where students in business suits, led by Charmaine Smith, sang "I'm Selling Out," to the tune of Diana Ross's "I'm Coming Out." A sample lyric: "There's a new me selling out/'Cause docs don't make a lot/Respect is what you've got/But I'd really like a yacht." Harvard School of Dental Medicine students attacked tooth decay at—where else?—HMS England. And at HMS Spain, professors Bruce Korf (Joseph Carlson) and Cliff Tabin (Tom Richards), along with their respective fans, faced off in a battle, complete with swordfight, set to the tune of a song from Disney's *Mulan*.

In the end, of course, students and teachers were reunited at HMS Longwood, thus thwarting Dean

ALL THE WORLD'S A STAGE: A. HMS students kick up their heels in o display of traditionol dance. B. Kung-fu fighters show off ocrobotic moves. C. Harvard's sensory homunculus helps students leorn obout neuroanatomy. D. Country-ond-western second yeors sing about complex diognoses. E. A student conducts o patient interview, "Southie" style.

Federman's evil plan to franchise the School (and while he's at it, destroy the world). The show concluded with an HMS version of "One" from "A Chorus Line," in which students sang, "One look at our skills on the stage and you will see/Why we're forsaking the theater for our MD." Despite that disclaimer, audience members thoroughly enjoyed the Second Year Show, shouting out their approval at particularly apt bits of satire or well-executed dance moves and acrobatics.

Rehearsing those moves took its toll, however; Janet Maldonado, who produced the show with Joseph Carlson and Jennifer Lee, reports that the dance rehearsals were grueling at times, and resulted in quite a few bruises and pulled muscles. But the intense preparation paid off. "I knew our class was made up of very talented people," Maldonado says, "but this display of talent on stage was unexpected for everybody." ■

PRESIDENT'S REPORT

DELIGHTFULLY CENTRAL TO THE Alumni Council's winter meeting on March 1 and 2 was the welcoming of Nora Nercessian, assistant dean for alumni affairs and special projects, as the newest honorary member of the Harvard Medical Alumni Association. Only twice before in its history has this distinction been conferred (on Dorothy Murphy and Ellen Miller). By unanimous vote of the Council, Nora was recognized for her commitment to the HMAA and for her unique perspective, as a historian, in preserving its history.

The certificate of award read: "Know ye that in recognition of her extraordinary efforts at preserving the spirit and history of Harvard Medical School, Nora N. Nercessian, PhD, has been elected an honorary member of the Harvard Medical Alumni Association, March 3, 2001."

Our congratulations as well to our colleagues at the *Bulletin* for receiving a merit award from the Society of Publication Designers for the cover design of the Winter 2000 issue, which was devoted to medical ethics.

The state of medical education at HMS was a central theme of the winter meeting. At the Council's dinner, Joseph Carlson '03, Lynn Sosa '02, and Stephen Martin '02 offered their viewpoints, as current students, as to the educational and training strengths and weaknesses of the present curriculum.

At the following day's session, Steven Weinberger '73 provided the faculty's perspective. His analysis of the challenges of clinical education extended the students' insights into problems as seen and experienced by the housestaff, faculty, HMS and the academic medical center. He reviewed current initiatives that speak to the needs of each of these groups. The morning concluded with a discussion with Dean Joseph Martin about the educational and research initiatives in the Quadrangle.

The meeting also provided a rich discussion of the Coleus Society by Pete Coggins '58 and Joseph Hurd '64. The Coleus Society, approved by the Alumni Council in 1988, was established, according to Michael Myers '85 and Bernard Godley '89, with a central commitment to enhancing networking among minority alumni, by serving as mentors and role models for current HMS students, and by increasing social interaction among minority graduates and all HMS graduates. Current strategies for the continued accomplishment of these goals were reviewed.

After lunch, the Council toured the newly refurbished Countway Library, conducted by Judith Messerle, head librarian. Of particular interest was the demonstration of the digital library resources permitting broad access to the literature on-line.

Lastly, plans to initiate a web-based survey of the alumni were discussed. The Council anticipates a pilot survey this spring in advance of a larger effort. John Halamka, MD, associate dean of educational technology, presented his experience with web-based surveys and will assist in establishing the computer infrastructure for the alumni effort. The notion of periodic web-based surveys, which will also serve as a communications link, continues to have the enthusiastic support of the Council.

Alumni Week is right around the corner. The Friday morning session will be devoted to the topic of renewal, and we hope that you will come and participate. We look forward to seeing you then!

As always, your views and counsel about the work of the Council are most welcome. Please contact Dan Federman, Nora Nercessian, or me through the alumni office (phone: 617-432-1560; email: hmsalum@hms.harvard.edu). ■

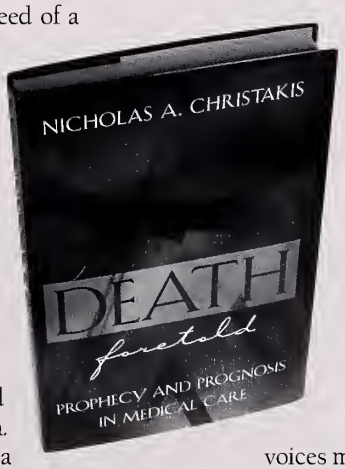
Charles J. Hatem '66 is director of medical education at Mount Auburn Hospital in Cambridge, Massachusetts.

Death Foretold

Prophecy and Prognosis in Medical Care
by Nicholas A. Christakis '88
(University of Chicago Press, 1999)

IT IS VERY SIMPLE, REALLY. YOU GO, WOUNDED, TO YOUR doctor. You need to know three things from her: what's wrong with me? how will it be treated? and, will I survive? It's the last trembling question about prognosis that is most personally imperative, most sudden, and most difficult to answer.

In the constantly revised textbook *Harrison's Principles of Internal Medicine*, only 27 percent of the authoritative entries contain prognostic information. In a 15-minute medical visit, the median amount of time devoted to delivering a prognosis is three seconds. These creative statistics—and the book *Death Foretold* is dense with them—can stop you dead. There is no denying it. Prognosis is in desperate need of a second life.



Prognosis is the neglected child of two overworked professional parents, diagnosis and treatment. Textbooks omit it, medical schools don't teach it, doctors avoid it. As author Nicholas Christakis '88 writes, "Like death, prognostication seems mysterious, final, powerful, and dangerous."

Christakis then takes 300 rigorous pages to enter the belly of the beast and look around with a bright light. Using the old psychiatric saw that insight can combat instinct, he begins with the many reasons we dread telling patients what will happen to them. Some seem sensible: fears of being sued by a patient, and fears of losing stature in front of colleagues, when a prognosis is inaccurate. Some seem more primitive: superstitions that delivering a prognosis, especially a favorable one, throws a challenge to the gods and invites failure. Some are personal: reluctance to bear bad news (go figure, without stereotyping, why prognoses are delivered most often by surgeons). Some are well-meant: doesn't bad news deplete hope, and isn't hope necessary?

Then there are technical difficulties. Prognoses are hard to formulate accurately. They become Heisenbergian, since using a treatment to shine a light on illness actually changes its position over time. What began as an accurate prognosis is altered by medical response.

There are plenty of reasons why the neglected child is left to itself. Yet our job is to discover, to treat, and to tell. Christakis argues that prognostication is necessary for both patients and doctors. Whether bright or dim, prognosis decreases uncertainty and anxiety. When it is correct, it confirms that the unknown is less unknown. When it is incorrect, it inspires the grand sense (in patients and caretakers) that some larger force has rolled their dice differently. As Christakis states, it "evokes religion in a way that diagnosis and treatment...much more under human control, do not."

There is a vision in this book, a shining picture of what the ideal prognosis would be like, and the writer goes to great lengths to illuminate it. The ideal prognosis requires preparation. It should be grounded in research and studies on particular diseases—"no matter how difficult it may be for physicians to foretell the future, they can make more of an effort to foresee it." Its delivery should be practiced and practiced again, like any technical skill, in medical school. It should be given in absorptive stages, not in a single dose of "terminal candor." It should accomplish what seems impossible: offer accuracy, yet sustain hope.

To do this, the ideal prognosis makes use of two kinds of knowledge: objective and empathic. Christakis suggests that specialists, with less personal knowledge of a patient but more objectivity, are best able to develop the prognosis. Generalists, with longitudinal knowledge of the person in each of their patients, are better able to communicate it. This seems at once an obvious and a daring idea.

The most powerful proofs of Christakis's vision come from the stories doctors tell about themselves, transcribed without tidying up grammar or vernacular, full of pipe smoke circling over the general practitioner's head and consoles beeping in the ICU. These voices make up the components of a single complicated being: reflective (a hospice doctor asking his terminal patient about her hopes and dreams); flippant; abrupt; defensive (a specialist castigated by his patient for having removed all hope); wrung out (an ICU intern hating the dying patient he must keep alive for the family); tearful (an oncologist glossing over terminal news to a young mother with ovarian cancer); and touching.

The drive behind great thinking is always personal. "I spent my boyhood...both craving and detesting prognostic precision," Christakis writes in his dedication. When he was six years old, his mother was given a 10 percent chance of living three weeks. She lived for another 19 years. Some physician had the courage to deliver this news. The family had the courage to hear and accept it, and then to revel in its wrongness. Without doubt, the doctor reveled, too. It was a prognostic dream come true. ■

Elissa Ely '88 is a lecturer on psychiatry at HMS.

PHOTO: LIZA GREEN

Right on Target: Recognizing the Self

THE DUALITY BETWEEN RIGHT and left brain hemispheres has become part of our lore, with frequent references in popular culture to "right-brain thinking" or "left-brain people." The reality is not that simple, but many of the brain's functions do display a degree of lateralization, and scientists often treat the left hemisphere as the better half, with its superior abilities in language, problem solving, and logic. The differences in awareness between the two hemispheres have even been compared to those between humans and other species. But research led by Julian Keenan, HMS instructor in neurology, and Alvaro Pascual-Leone, HMS associate professor of neurology, both at Beth Israel Deaconess Medical Center, shows that self-recognition, one of the hallmarks of human consciousness, may be largely a function of the right hemisphere.

Face Value

Many primates can distinguish faces, yet the ability to recognize one's own face in a mirror is one that only higher primates have, suggesting that self-recognition may be linked to a higher order of self-awareness. Research has pointed to the involvement of the prefrontal cortex of the right hemisphere in self-recognition; for instance, functional imaging shows increased activity in the right prefrontal cortex when subjects are comparing images of self with others, or identifying attributes associated with self. But imaging can be notoriously vague. It shows active areas of the brain but cannot prove a causal relationship.

The team's current experiment goes a step beyond looking for correlations by actually blocking a portion of the brain to determine if it is needed for a task. The group studied five patients undergoing a preoperative test for surgery to treat epilepsy. During the test, half of the brain was anesthetized, blocking it temporarily. While under anesthesia, each patient was shown and told to remember an image of his or her own face morphed with that of a famous person. After the anesthesia wore off, the patients were presented with the two pictures that had been morphed together and instructed to choose which image they had seen.

Although neither image was correct, patients chose the image they thought most closely represented the one they had viewed. All of the patients who had seen the morphed picture with the left half of their brain blocked chose the picture of themselves. Yet four out of five patients who had looked at the morphed picture with the right half of their brain blocked chose the famous person. "In these subjects," Pascual-Leone says, "how likely they are to recognize themselves in a given equivocal picture is much higher if they can use the right hemisphere than if they can't."

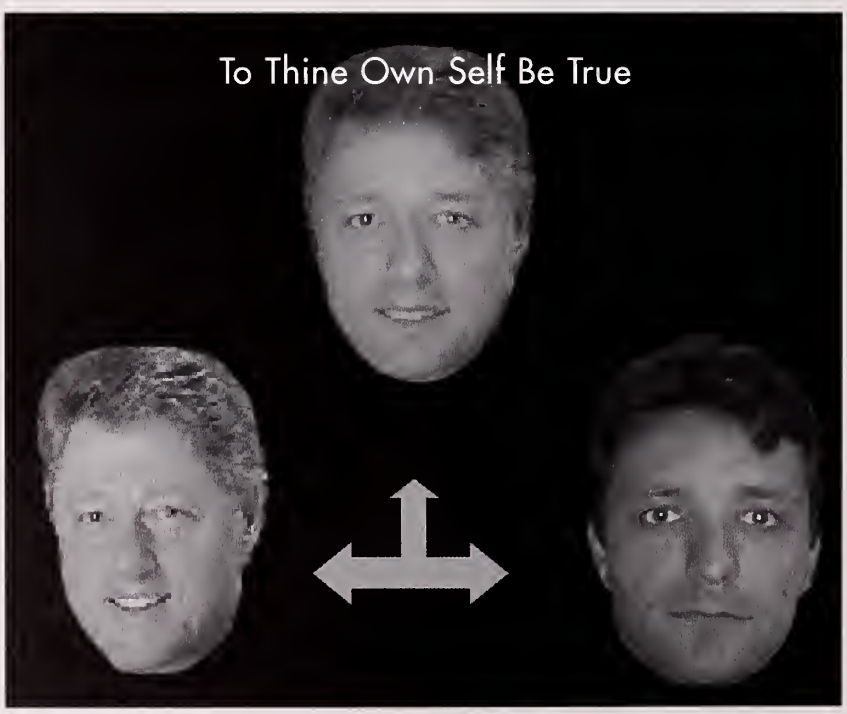


PHOTO COURTESY OF JULIAN PAUL KEENAN

IDENTITY CRISIS: Julian Keenan, right, is shown morphed with a picture of Bill Clinton. Patients who looked at similar images of themselves morphed with a famous person recognized themselves in the picture when using their right brain; while using their left brain, patients recognized the celebrity.

Taking Sides

Although the study supports the theory that the right brain is involved in self-recognition, how to interpret this association is still unclear. With an organ as complex as the brain, it is dangerous to assume that an area crucial to performing a certain task actually contains this ability. "There is something critical in the relationship of the right frontotemporal area to the self and self-awareness," Pascual-Leone says. "But it doesn't mean that that's where the self is."

One possibility is that the left brain, with its superior access to language, is able to assign a name to the famous per-

son more quickly, whereas the right brain, which is often linked to the emotional response to language, responds to an unconscious emotional reaction to seeing oneself.

Alternatively, or perhaps in conjunction with an emotional response, it is possible that a network in the right brain is involved in many different aspects of self-awareness. Studies of patients with lesions on the right prefrontal cortex also provide anecdotal evidence of this relationship. Case studies have documented people with damage to the right prefrontal cortex who experience impaired autobiographical memory, depersonalization, or denial of ownership of the left side of their bodies. "I'm interested in finding out if there is a relationship in all this," Keenan adds. Although there may not be anything so simple as a self "center" in the brain, Keenan says, the current study "allows us to add weight to the notion that some specific area or network that includes right frontal areas has something to do specifically with this idea of self."

Keenan has devised other ways of testing the brain's lopsided sense of self-image. His team has used transcranial magnetic stimulation on normal subjects to show that the right side of the brain is more active when looking at morphs of oneself. He has also used the techniques of morphing faces to create movies that show a gradual transition from one face to another. Subjects were then instructed to press a button when they recognized that the famous face had become either their own face or the face of a coworker. The average stopping point arrived sooner when subjects were looking at themselves and responding with their left hand, which is controlled by the right hemisphere. "The question is," Pascual-Leone says, "when something equivocal is in a face, do you recognize it as being yourself or not, and how quickly?" ■

Courtney Humphries is a science writer for Focus, *a biweekly newsletter published at HMS.*

BRAIN HESITATES IN ASSEMBLING MOSAIC OF MOTION

THE APERTURE PROBLEM: A vertical bar is shown at five positions as it moves upward and rightward. But when the bar is viewed through a small window, analogous to a single neuron's receptive field, it seems to move only to the right.

MODEL BY JEFF CLEARY

When interpreting movement in the visuol world, the broin must integrate infarmatian fram many different neurans in the primary visuol cortex, eoch of which hos o tiny receptive field. Fram all af these localized snapshats the brain must samehow construct the whale picture. But haw does it make an interpretatian when the snapshats affer canflicting infarmatian?

In the illustratian abave, o verticol bar is shawn at several pasitions in time os it moves in a diaganal directian upward ond to the right. But when viewed thraugh o smoll windaw that daes nat include the endpoints of the line, it seems ta have moved in o perpendicular directian ta the right. If the window represented a cell's receptive field, interpreting directian af mavement could be misleading because anly cells that ore positioned at the endpaints af the line con register the true directian.

Richard Barn '87, HMS assistant professor af neurabiology, ond Christopher Pock, o reseorch fellaw in his labarotory, repart in the February 22 issue af *Nature* thot the middle temparal (MT) visuol orea hos o dynomic solution ta the prablem. Using microelectrades, they measured neuranal respanses in olert macaque monkeys who were shown lines moving ot different arientations. How the visual part of the brain interpreted the directian of movement cauld be determined by the firing of directian-selective MT neurons. The team found thot the MT initially respanded primorily ta the perpendicular camponent of the mavement, cansistent with the ideo that mare neurons ore registering only this directian. But over o periad af obout 60 milliseconds, the neurans gradually register the true directian af movement.

"The broin mokes o very quick guess," Barn soys. "It takes time far the right answer ta percolote." The monkeys alsa mode initial eye mavements that deviated in the directian perpendicular ta the lines, suggesting o behovioral carrelate of the early neurol respanse. ■

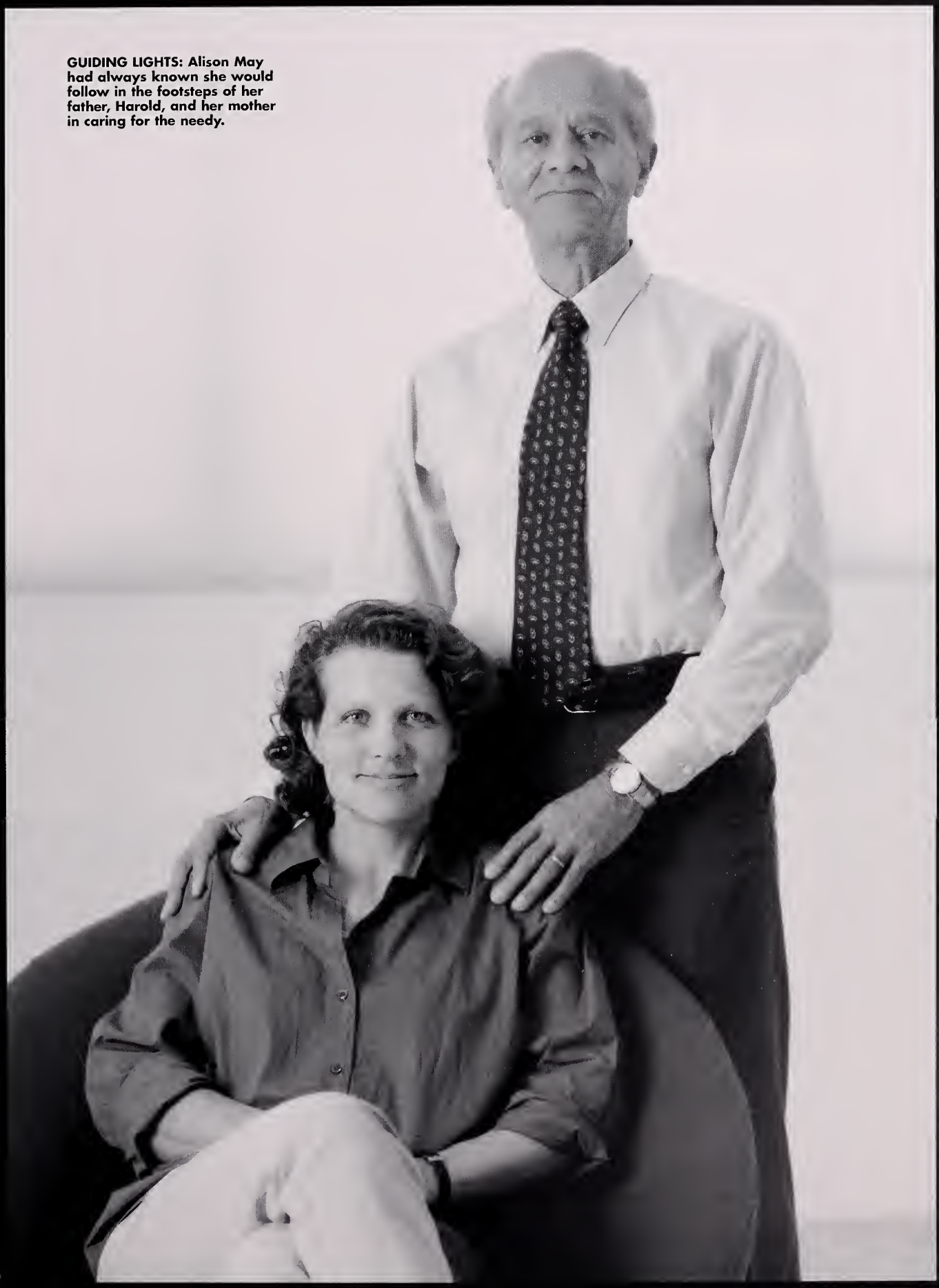
family values

IN WORKING WITH THE UNDERSERVED, HAROLD MAY '51 SEES HIMSELF as both an idealist and a realist. His is a vision born of growing up surrounded by powerful, practical models of good and evil in the world beyond his home in Poughkeepsie, New York. May's father, a minister in the African Methodist Episcopal Zion Church, and his mother sparked an early desire in their son to pursue missionary work. The inspiration to combine this spiritual endeavor with medicine arose when a friend of May's father made a providential gift of several books on Albert Schweitzer's life and work in Africa.

At the same time that Harold May was making adolescent acquaintance with Schweitzer's humanitarian work, he and his generation were coming to grips with the horrors of the Holocaust. The idealistic and faithful young man learned stark lessons about the need to fight for justice when the occasion demanded it. He was a high school student when World War II broke out, and 17 years old when he volunteered to join the Air Corps, where he trained as a pilot. When the war ended, >>

PHOTO TIM GRAY

Harold May passes on a legacy of compassion to his daughter Alison | *by* BEVERLY BALLARO



GUIDING LIGHTS: Alison May had always known she would follow in the footsteps of her father, Harold, and her mother in caring for the needy.

i never once asked God for my vision will, no matter what that was.

May opted to leave the military because he knew that he wanted a career in healing people, both physically and spiritually. After completing his premedical studies at Harvard, he enrolled at HMS, where he quickly discovered that the medical profession suited perfectly the man he was and the man he wanted to become.

Blind Faith

May sailed through his first year of medical school, impassioned by his dreams of bringing desperately needed surgical skills to Africa or India. But during his second year at HMS, May, the former military pilot, suddenly began having trouble seeing the blackboard from his customary seat in the back of the amphitheater. An ophthalmologist made the diagnosis of keratoconus, possibly the result of an earlier injury. May's dreams of becoming a surgeon began to slip away.

Hard contact lenses, the only type available at the time, helped but, during his residency at Boston City Hospital, May discovered that this type of lens always produced an hour-long inflammatory reaction. He began rising early to anticipate and plan around this reaction. As a medical consultant to the surgical service, he regularly scrubbed in for operations, which reawakened his desire to be a surgeon. He took a gamble by enrolling in surgical training despite his continuing vision problems. "I decided that I would walk by faith," he said, "and that it would all work out. I just didn't know how."

May's faith in God's plan was bolstered when he was accepted to the surgical program at Massachusetts General Hospital, the one and only place he had applied. On his very first day at MGH, he met an ophthalmology resident, who gave him cortisone drops that ended his vision problems for the next two and a half years. Yet the eyestrain produced by prolonged contact lens use took its toll and, halfway through his training, May developed corneal ulcers in both eyes. For a time, he rotated a patch and contact lens but, eventually, both eyes gave out. May found himself legally blind, unable to navigate his way to the dining hall unless it was on the arm of a friend.

Yet, despite the crisis, May's spirituality never wavered, and even deepened at this time: "I was living by faith, not by sight. I never once asked God for my vision back. I just prayed that I would do His will, no matter what that was. My attitude was, 'Okay, what's next?'" May offered his resignation to the chief of surgery at MGH, Edward Churchill, who refused to accept it, promising him that they'd try to get him corneal transplants.

With no choice but to give his eyes a chance to heal to prepare for the transplants, May took a leave of absence and returned home to his parents. There, Reverend May took to reading aloud to his blind son. May recalls that one article his father read to him described the Albert Schweitzer Hospital in Haiti.

By then, May had grown disenchanted with Schweitzer's notion of "bearing the white man's burden" in Africa. He had come to the conclusion that human efforts alone, even those of as great as a man as Schweitzer, would never be sufficient unless harnessed to a greater power. "I was looking to serve as God's instrument," he says, "but I had no idea at that time that His plan would set me on a path to the Schweitzer hospital."

When a donor eye became available, May underwent the corneal transplant. The procedure was so new and the outcome so uncertain, that both May and his ophthalmologist had refused to do the operation until he was blind and there was nothing to lose. His eye remained bandaged for ten days. "I can remember so clearly," he says, "the elation I felt when a nurse finally removed the dressing and I could see her." Up until that moment, blindness had remained a very real possibility for him.

HEALERS IN HAITI: Harold May (right), Frank Lepreau, Jr. '38 (left), and a visiting surgical resident in front of the Schweitzer Hospital in Haiti.

back. I just prayed that I would do His My attitude was, "Okay what's next?"

Man on a Mission

Hoping to convince their son to do missionary work in their native Jamaica, May's parents invited him on a trip there while he was convalescing from his first corneal transplant. May ended up staying for six months, during which time he studied tropical medicine and kept hearing more and more about the terrible poverty in nearby Haiti. The day after the 1956 Christmas revolution in Haiti, May was on board the first post-uprising flight into the country.

A local doctor in Port-au-Prince introduced May to some missionaries, who led him to the country's interior and Larry Mellon's Schweitzer Hospital, the same one that May's father had described aloud to his blind son some months earlier. May told Mellon, "I feel called to be a missionary and I'm looking for the place where I should spend my life," to which Mellon replied, "Well, can you help us right here?"

May stayed at the hospital for six months, operating with only one good eye, and starting Bible study and literacy classes in what little spare time he had. He went back to the United States to have his other eye surgically repaired and to complete his residency, then returned to Haiti, where he became both chief-of-surgery at the Schweitzer Hospital and lay pastor for the church. Several years later, Frank Lepreau, Jr. '38 joined the hospital as its medical director. May and Lepreau worked closely together for many years to alleviate the suffering of their patients, many of whom had never had access to medical care.

During the nearly dozen years May worked in Haiti, he learned many valuable lessons from his deeply impoverished and mostly illiterate patients. Rural Haitian culture offered impressive models of rich family lives and enduring faith in the face of adversity. But it also gave May stark insights into inequities in health across the board. "Yes, Haiti had enormous problems," May says. "But we should not delude ourselves into thinking that American culture is superior. In my entire time there, I saw not one case of lung cancer. During my surgical training, I became accustomed to finding arteries as hard as stovepipes. But our Haitian adult patients had vessels as soft as those in babies. So, who is to say who was better off? Americans suffered from excess in their lives, while Haitians didn't have enough. The answer was for us to share resources and both be healthier for it."

May was also deeply committed to the idea of empowering the Haitian people to help themselves over the long haul. "Rather than just cutting out tumor after tumor," he says, "I felt that the best investment of my energy would be to spend part of my time focusing on the education system, so that children would grow up with sound ideas about disease prevention. The hope was that some of them would eventually become teachers and doctors themselves."

So, in 1962, May and the other members of the church decided to use the modest sum of money they had collected to start a kindergarten. They created space for 75 children; on the first day, 750 showed up. Every year, another class was added to Ecole la Providence until 1969, when the primary school was complete. When Mellon decided the school should grow no larger, May decided that it could continue to expand only if he left Haiti. For May, it was a test of faith. Despite their differences, he and Mellon remained good friends in the years that followed, as the school continued to grow and its influence to spread.

Agent of Change

God closes one door and opens another, the proverb goes; May quickly discovered that he could apply the lessons he had learned in Haiti in the service of causes closer to home. When Grant Rodkey '43A, who had spent a month in Haiti, relayed the news that Francis Moore '39 wanted May to take on the job of director of community medicine at Peter Bent Brigham Hospital, May followed his calling.

When Moore asked him to focus on finding ways to improve Boston's emergency services system, May collaborated with MIT professors and others to develop the best approach possible. Yet even as he worked to effect positive change, he found himself disheartened by the new vision of medicine that had taken hold while he was in Haiti. "I had always thought that being a doctor was about taking care of sick people," he says. "But I came back to a culture in which hospi-

BACK FROM THE BRINK: A 12-year-old Haitian patient, six months after May performed a spleno-renal shunt for portal hypertension.

my father was always an 'island the right thing for the

tals were clearly competing with one another and terms like 'health care consumer' were beginning to circulate as medicine moved into the marketplace."

When an opportunity to work directly with another badly underserved population arose, May responded. In 1975, a successful lawsuit against the commonwealth of Massachusetts required improvements in the treatment of mentally retarded people. When Children's Hospital accepted responsibility for the medical services at what was then called the Wrentham State School, May and a colleague went to visit the place. "The conditions were really terrible," he recalls. "After seeing how overcrowded and understaffed the facility was, my colleague admitted, 'I could never work here,' but I said, 'I can.' In so many ways, it was just like Haiti."

May spent 19 years at Wrentham, during which time conditions for its mentally retarded residents improved tremendously. As he had done in Haiti, where he had helped train nonprofessionals to function as physician assistants, here, too, he was pleased that nurse practitioners played key roles as "physician-extenders." When Children's decided, in 1994, to hand over responsibility for Wrentham to a new group, May faced a choice about whether to stay or to move on to a new calling—Boston's inner city.

Family Footsteps

"I really didn't know what God had in store for me next," May says, with a soft laugh, "but I figured He would provide an answer." Within days of May's departure from Wrentham, an issue of *Time* magazine arrived. The cover story described the short and troubled life of an 11-year-old Chicago boy who had murdered a young girl and had subsequently been shot to death himself. Suddenly, just as with Haiti and Wrentham, May knew what he had to do. He would work with troubled children and families in Boston's inner city.

From his earliest days at HMS, May had loved learning about the body's systems, how they work together, and the results when they are not in harmony. At Wrentham, he had seen how the central nervous system damage in mentally retarded people affected so many areas of their existence. And, now, thinking about the witch's brew of factors that was producing a wave of young killers and murder victims, May could see that the chaos of the internal systems of many of these troubled young people reflected the toxic environment that surrounded them. He could perceive in a new way that society was sick, and that its illness was systemic. Society's systems—whether health care, education, or the economy—were not functioning in harmony, as they should.

A vision for systematic change came to him in the middle of the night. May conceived of a membership organization called FAMILY ("Fathers And Mothers, Infants, eLders, and Youth") as a catalyst for the formation of a support system for parents and children, and an agent for realigning society's ailing systems. Drawing upon the school model initiated in Haiti, May's group hired a family educator to establish ongoing, nurturing relationships with all 25 kindergartners and their families at the Lucy Stone School in Dorchester. By repeating this effort with each entering class, May knows that, in five years, all children at the school should have a support system in place.

But May's experience has taught him the need to engage all of society's systems. So, his group has started separate programs at Dorchester District Court for nonviolent fathers and mothers on probation. And, most ambitious of all, they are collaborating with the Codman Square Health Center to establish a support system that will follow all Codman Square newborns and their families throughout their lives. FAMILY is also establishing a think tank called the Family Institute for ongoing evaluation of the Codman Square experience as a replicable model for other communities.

May prizes his relationship with his own family as the main priority in his life, second only to his relationship with God. "I was always very busy as a doctor, but my family knew that I would drop anything for them," he says. Although May and his wife, Aggie, a nurse, were careful not to try to steer their three daughters toward careers in health care, Jeannette is a health educator, Margie is a nutritionist, and Alison (HMS '91) is a physician with the Boston Health Care for the Homeless Program.

The legacy of caring that May and his wife have transmitted to their children is part of May's greater life goal: "I'm sure that our society will become healthy *only* when we learn how to develop strong support systems for *all* children and *all* families. It won't happen during my lifetime, but we must start. I hope and pray that it will happen after I'm gone."

Passing the Torch

When Alison May '91 received her HMS degree nearly 40 years to the day after her father's graduation, it was the fulfillment of a legacy that was not as preordained as it might have seemed. "We talked about it intermittently," she says, "but my father never pushed me into medicine. He has always believed that the commitment to be a good doctor has to come from within. He encouraged me to pray about my decision."

The younger May had always known that, like her father (and her mother, too), she would follow a path of caring for the underserved. But it was not always clear to her that she would do so by pursuing a career in medicine. Growing up in Haiti

in the storm.' His model of patient care—doing right reason—is the one I try most to emulate."

until she was six, May was surrounded by adults, nearly all of whom were medical professionals she admired.

But as a child observing the demands placed on her father as the only surgeon on call for a large area, she knew that a doctor's life could be hard. Over the years, May thought about many different fields in which she might be of service, including public health and even the ministry. She took time off as an undergraduate to explore different experiences that included working as a home health aide. As an aide, May ended up befriending one of her patients, a deeply spiritual man who had been rendered paraplegic in a motorcycle accident. Several days a week, she rose at five o'clock to arrive at the man's home and help him with basic physical tasks. The experience convinced her of her calling to help people by ministering to their health.

After HMS, which May chose in part because of its proximity to her parents, she considered returning to Haiti but was held back by issues of safety in that politically volatile nation. Like her father, she also knew that there were plenty of underserved communities right in her own backyard. And, as in her father's experience, providential circumstances seemed to lead her to where she was needed. The same week that a funding-contingent job May had lined up fell through, she happened to attend a lecture given by James O'Connell '82, who runs the Boston Health Care for the Homeless Program. When O'Connell offered her a job as a primary care physician, May began a career providing care to people living in homeless shelters.

May admits that, at times, the homeless can be a tough population to serve. "There are days when I don't feel like seeing particular people. If a patient tries to dupe me by giving me false information on which I'm supposed to base clinical decisions, that can be discouraging. But I work hard at trying not to let previous experiences color my future treatment of people. I actually find it heartening that I still get disappointed by patients at times, because this signals to me that I haven't become totally cynical."

STREETWISE: An outreach worker chats with a client from the Boston Health Care for the Homeless Program, where Alison May serves as a physician.

May relies on her faith to guide and sustain her—and on the lessons she learns from her patients. From picking up the latest street lingo to understanding how her patients find work or acquire drugs, May has received an eye-opening, practical education about ways of life entirely different from those found in mainstream populations. And yet, May says, she has had various patients speak to her about their faith as a sustaining force in their troubled lives—and not simply as a beacon to guide them to a better future.

Despite their myriad problems, some of the homeless people with whom May works find a certain joy and inspiration in simply being alive in the moment. And some of the most valuable lessons these patients have to offer shed light on May's own belief system. "They teach me how I make assumptions about people, for example. I sometimes catch myself assuming that an alcoholic will keep drinking, but my experience has taught me that you can never count someone out. My patients remind me of this when I fail to remind myself."

Powerful reminders of the right path to take come, too, from May's parents, who remain stalwart supports in their daughter's life. May has, on occasion, tapped into her father's rich legacy of compassion and clinical experience to solicit guidance in dealing with difficult patient encounters and in setting boundaries. "My father was always an 'island in the storm,'" says May. "His model of patient care—doing the right thing for the right reason—is the one I try most to emulate. He has never been callous and has always been sincere in his desire to include and respect everyone. But he's never been shy about speaking out when things are going wrong. He may not be Mr. Nice all the time but he's definitely always Mr. Good." ■

Beverly Ballaro is associate editor of the Harvard Medical Alumni Bulletin.

'74

{ELEANOR HOBBS}

everyday hero

From urban health centers to African hospital wards, physicians struggle to improve

ELEANOR HOBBS '74 ENTHUSIASTICALLY CHARACTERIZES HER WORK WITH largely poor, immigrant patients in urgent care at the East Boston Neighborhood Health Center as "serving a slice of the developing world in the shadow of the big Boston teaching hospitals." For Hobbs, a Philadelphia native whose Quaker education exposed her early on to social justice issues and notions of the dignity of every person, serving the disenfranchised seemed a natural evolution of her career in emergency medicine. But there were other advantages as well, she discovered. Emergency medicine offered Hobbs the flexibility to raise three daughters, and also some of the most intriguing challenges to both her medical and social anthropology skills.

"I was drawn to the field of emergency medicine," Hobbs says, "because I find it fascinating to have that very first encounter with the patient, unbiased by previous diagnoses and written records. I enjoy the constant analysis and refinement of my own clinical acumen and seeing my hypotheses tested as a diagnosis unfolds. To me, this is >>

PHOTO LIZA GREEN

BETWEEN THE LINES: Eleanor Hobbs thrives on the interplay between medicine and social anthropology in working with very diverse populations.

es

the health and lives of vulnerable populations

by BEVERLY BALLARO *and* SUSAN CASSIDY

medicine at its purest and most fundamental level because I have to draw upon my communication skills, all five senses, and what I have come to call a 'sixth sense' as well."

Hobbs defines that crucial sixth sense as "a gestalt acquired over time by experienced clinicians," or a gradually internalized intuition for weighing the various data provided by the other five senses. "A real challenge of emergency medicine," she explains, "is to avoid premature closure." However, she adds, the trained eye can pick up subtle visual clues at first glance from across the room to begin to formulate a diagnosis. A patient suffering from a kidney stone tends to writhe, sweat, and moan, while one with appendicitis will likely be doing the "appendicitis shuffle"—bent over to the right and wincing in agony with each step that jolts that side. "Emergency physicians pride themselves in these across-the-room diagnostic hypotheses," Hobbs says.

At other times, Hobbs has relied on her keen sense of smell to assist in a diagnosis. While alcohol is the most common and easily recognized odor, she points out that she routinely smells the breath of patients with diabetes or vomiting to detect the fruity scent of ketones well before confirmation by laboratory tests. When she once treated a young woman who had overdosed on an unknown substance, Hobbs recognized the odd yet familiar odor on the patient's breath as similar to the insecticide that her father used on his rosebushes—malathion—and was able to begin specific antidote treatment prior to toxicologic confirmation.

Working as she does in the vibrantly diverse community of East Boston, Hobbs has found that social anthropology insights can be just as crucial as medical knowledge in arriving at proper diagnoses. She recalls one case in which a 72-year-old Vietnamese man, accompanied by his son and grandson, came to the center after several days of abdominal pain and an inability to eat. Wincing but stoic while his belly was examined, the man insisted, through an interpreter, that the pain was minor. When Hobbs proposed her suspicion of appendicitis to the young surgical consultant, he was skeptical, on the basis that the man's right lower quadrant didn't seem particularly tender to him. "This is where you learn the importance of placing the medical situation in the correct cultural context," Hobbs says. "I explained to my young colleague, 'Look, I know from my two decades of working in emergency departments that you don't see a 72-year-old Vietnamese man dragged in by two generations of his family unless he has a *serious* problem.'" After tests confirmed that the patient did have appendicitis, the consultant thanked her for being alert to a cultural difference that he had not previously encountered.

THE SIXTH SENSE: Eleanor Hobbs enjoys the constant challenge of using skill and intuition to make quick, accurate diagnoses of her urgent care patients.

A Small World After All

Yet the excitement of emergency medicine, Hobbs says, especially in the increasingly globalized world of urban community health, stems from the way it keeps *all* physicians, regardless of experience, on a continuous learning curve. Last year, the East Boston Health Center saw 41,000 patients in the adult urgent care department alone. Many of these were people who probably would have gone to hospital emergency departments were it not for the center's hard-earned reputation for delivering high-quality, culturally competent care.

The center often serves as an important bellwether for health and demographic trends, Hobbs says. Like many of her physician colleagues, she is studying Spanish to help her communicate effectively with the majority of the center's urgent care patients, many of whom come from Central American countries.

The global connections of the center's patient population bring particular medical challenges. Every year, patients come in with tuberculosis and, nearly every spring, one or more El Salvadoran immigrants are diagnosed with rubella. The prospect of a rapid spread of rubella among a young, fertile, and unimmunized El Salvadoran community is worrisome, Hobbs says. One year, just before Easter, health center physicians and the public health department came up with the idea of having the priest in the local Catholic church make a plea for free vaccinations during an Easter Sunday Spanish-language Mass. This led to an enormous turnout at the immunization tables that health workers had set up in the church courtyard.

"The best solutions to keep our patients well often arise from creative compromise," Hobbs says. She points out, for example, that 10 to 15 percent of the center's patients are Muslims, who fast during sunlight hours in the holy month of Ramadan. Working out a sensible way to manage diabetes during Ramadan is a challenge, for doctors and patients alike.

"Cultural awareness is one thing, but as a medical doctor you have to draw the line somewhere," says Hobbs, who has dealt firsthand with ethical dilemmas created by cultural differences. For example, most of the center's Arab women patients wear the veil and come to the center accompanied by a male relative. They generally request a female clinician and chaperone. Hobbs and her staff ask the male relative to leave the room during the gynecological exam to provide a safe opportunity to adhere to their "screen all patients" domestic violence policy. Senior clinicians also had to develop a response to an increasing number of requests for virginity certifications.

"While acknowledging that this is an important religious and cultural issue for some," Hobbs says, "we unanimously felt that such certification is not a legitimate medical procedure, and that health care providers should not get involved."

For Hobbs, navigating between various cultures makes the work she does all the more professionally affirming. "It's not the same as going off to another country to experience international medicine," Hobbs says, "but it's about as close as I can get with a daily commute." She still works in the emergency department at Massachusetts General Hospital four to five times a month to keep her emergency skills sharp and up-to-date, and she derives great satisfaction from bringing that knowledge to her patients and peers at the health center. Although the challenges of practicing good medicine with limited funding can lead to a high rate of burnout among those who work in community health centers, Hobbs says she is likely stay in the same field until she retires.

"I've worked with the educated, entitled, mainstream population, too," she says, "and that has its own set of challenges. Each physician has a different calling, and the community health model has enriched my professional and personal lives." ■

Beverly Ballaro is associate editor of the Harvard Medical Alumni Bulletin.

'92

{STEFAN KERTESZ}

His patients have taught Stefan Kertesz valuable lessons

THE MBATHI DISTRICT HOSPITAL IN NAIROBI, KENYA, IS A DECREPIT FACILITY FOR THE city's most desperate people—a place, Stefan Kertesz '92 says, "where there is so much to care about, and the balance between the care one can offer and the care that is needed is painfully lopsided." In 1997, Kertesz took three and a half months, at his own expense, to volunteer at the hospital. In a facility where more than half of the patients die, many of tuberculosis or AIDS, Kertesz worked on a daily basis with terminally ill people he knew he would be unlikely to save.

One such patient was a 17-year-old girl with AIDS. The hospital's nurses referred to her as an "abandoned housegirl," a young woman whose parents had left her to earn a living doing household chores for a family wealthier than her own. Kertesz and his colleagues surmised that she had likely been sexually victimized by a member of the family for which she worked. While Kertesz treated her medical condition to the best of his ability, he wondered how a 17-year-old girl with AIDS, no family, and no job would ultimately fare. He points out that caring for people with so few resources requires a unique approach. "You have to imagine your way into a different world to understand what they face."

Kertesz first imagined himself into this world when he visited Gabon in 1992 on a Schweitzer fellowship and discovered his passion for providing care to underserved populations. "The reality is that my 'altruism' is inextricably

bound up with what I like to do and what I am interested in," Kertesz explains. "My experience in Gabon was crucial in clarifying to myself that I found the process of care across boundaries of culture and economic opportunity to be fascinating and rewarding."

Part of what makes such work rewarding is the challenge of navigating the cultural and social issues that condition what treatments are available to any given patient. One of Kertesz's patients in Gabon, for example, was a woman displaying symptoms of depression. She was the second or third wife in a polygamous family and clearly not the favorite; she lived in a hut separate from her husband and his two primary wives. Although Kertesz prescribed an antidepressant, he's not sure if it helped her, and he knows that much more than a prescription would have been needed to treat her condition effectively. Certain problems encountered in developing countries are "almost unsolvable for a western-educated medical student," Kertesz admits. "The well-intentioned outsider doesn't usually get to render a cure."

But Kertesz is drawn to environments in which much of his work centers on identifying the barriers to providing care and figuring out ways to work around them. "Over time," he says, "you learn to feel your way into patients' circumstances." And in some cases, it is possible to lessen a patient's pain, or at the very least, communicate to them that someone is there to acknowledge it.

Currently a physician and faculty member at Boston Medical Center and a physician with the Boston Health Care for the Homeless Program, Kertesz sees many parallels between caring for impoverished patients in Africa and homeless patients in the United States. He gains from his interactions with them similar lessons and rewards. "Patients in so-called 'nontraditional settings' open up the imagination—to serve them we have to think more broadly," he says. "Minds are expanded and hearts are opened in the process." ■

Susan Cassidy is assistant editor of the Harvard Medical Alumni Bulletin.

'88

{ELLEN RAK}

WHAT IS A DOCTOR TO DO WHEN THE COURSE OF ACTION DICTATED BY MEDICAL training and intuition bumps squarely up against a patient's deeply held cultural conviction? In her job as clinical director of the SeaMar Community Health Center near Seattle, Ellen Rak '88 has found creatively nuanced solutions to balance professional obligations with patient preferences.

Once, Rak recalls, she was caring for a woman from the Oaxacan culture in Mexico. This patient had already delivered several babies at home but had received prenatal care for her latest pregnancy through Rak's clinic. She planned to give birth in a hospital setting for the first time. The modest women of the Oaxacan culture, Rak knew, tend toward stoicism in labor and regard birth as an intensely private moment. Traditionally, they drape themselves with a sheet and squat on the ground to deliver. As Rak monitored her patient's labor, she noted with growing concern a pattern of decreases in the baby's heartbeat. Anxious to protect the health of the infant yet reluctant to trespass the bounds of the mother's informed consent, Rak suppressed her impulse to order the woman to get into bed. In the end, she and her patient settled on a compromise that respected the integrity of all involved: the woman delivered a healthy baby from the tra-

Ellen Rak has learned the fine balance between

ditional squatting position—which she assumed in her hospital bed while the baby's heartbeat could still be monitored.

Rak's interest in negotiating, in the role of physician, the delicate spaces between different cultures arose from personal knowledge of the ways in which community support—or its lack—can affect people's chances of surviving and thriving. Family stories chronicling the hardships encountered by her grandparents when they emigrated from Ireland and Czechoslovakia to New York City at the turn of the twentieth century sparked in Rak an early fascination with immigration issues and a special empathy for people entangled in them. "I always knew I wanted to be on the front lines, doing primary care, working in the real world," she says. "I was determined to use my education to help people who, like my grandparents, are 'strangers in a strange land.'"

Strangers in a Strange Land

Although Seattle enjoys a reputation as one of the country's more affluent and cosmopolitan cities, the populations that Rak's clinic serves are a world removed from that mainstream urban culture. Most of the patients come from one of two disenfranchised groups: migrant farmworkers originally from Texas or Mexico, who settled in low-income housing in the area after coming there to work in the fields; or rural poor people who took on low-paying jobs when Washington's logging economy fell by the wayside.

Rak acknowledges that many in the mainstream are distinctly uncomfortable with, if not hostile to, the patients she serves. "Unfortunately, some people tend to perceive migrant workers in terms of the problems they bring rather than the richness they contribute," she says. "And those people fail to see the beauty when connections to community are forged and success stories quietly unfold."

Rak has witnessed firsthand the complicated miseries that go hand in hand with poverty and sociolinguistic isolation. "My farmworker patients tend to present with advanced illnesses that have become serious over time from neglect," she says. "It is not uncommon for them to come to the clinic in extremis, suffering from out-of-control diabetes, massive tumors, repetitive motion injuries, or debilitating depression."

"On the other hand," she adds, "I've seen patients defy amazing odds." She recalls, in particular, one 15-year-old girl whose severely deformed joints resulted from juvenile rheumatoid arthritis. The girl's father had suffered a heart attack and her mother had cervical cancer. The family had no medical insurance at first but, bit by bit, they managed to move into the mainstream of society. The girl had both knees and hips successfully replaced and is now thinking about attending law school. "That family had a real spark, and a wonderful work ethic," Rak says.

Strong, extended family ties, Rak believes, are one source of the richness of her patients' Mexican heritage. Another is spirituality. The deeply held Christian faith of many of the migrant workers she sees in her practice anchors a philosophical perspective on life—and death—not widely seen in mainstream American culture. One of Rak's early encounters with this philosophy came during her very first week on the job, when a young man came to her with a chronic cough. After steeling herself to break the news to him that he was infected with HIV, she was struck by his tempered reaction: "His first response was *'ni modo,'* which translates roughly along the lines of 'I can't control this. This is life. It's okay and I need to move on.'" But, Rak adds, "his attitude was not one of resignation as much as it was a statement of belief in a higher divine plan. That kind of faith helps sustain many of my patients."

Into the Mainstream

Faith in the future, despite sometimes exhausting obstacles, is what helps sustain Rak, too, as she confronts the challenges of what she describes as "life on the edge of the medical profession."

"My road is very different from that of my colleagues in private practice," she says. "It's a constant struggle to practice tight, high-quality medicine and meet all the audit guidelines. There is great pressure to work faster, even though many of the patients are both medically and psychologically complex."

Despite all efforts, though, the drive for efficiency can sometimes lead to maddening catch-22 situations; nurses are often reluctant to use translation services because of their cost, Rak points out, but it can be even more expensive to miss a diagnosis the first time around because of a language barrier. To respond to such dilemmas, she has chosen to combine clinical with administrative work. "I like to have a hand in the big picture," she says. "Tackling issues of organization and structure makes our jobs as clinicians easier."

She remains passionate about her work despite its challenges. "It can be exhausting," says Rak, who balances work with the demands of raising two small children. "Frankly, I don't know if I can do this forever. But it is also incredibly rewarding on a deep, personal level to see so concretely the differences you can make in people's lives by working within the community health care model."

Ironically, Rak adds that her ultimate goal would be to eliminate the need for this very model, which has served her patients so well and brought her so much professional satisfaction. "I know it isn't common for people to wish that their jobs would become obsolete," she says, laughing. "But, ideally, I would love to see all of my patients make the transition to the mainstream health care system and be able to access services designed to meet their needs." ■

Beverly Ballaro is associate editor of the Harvard Medical Alumni Bulletin.

her own training as a doctor and her patients' traditional practices of healing

saints alive

Physicians find inspiration from traditional and unexpected sources

PHOTO: THE DALLAS MORNING NEWS/LOUIS DELUCA

THE BERGGRENS

Like Mother, Like Daughter

My mother was "Dr. Gretchen Berggren of the Harvard School of Public Health," as she often informed airline reservation desks. We grew up in rural Haiti, where on a family outing we might see a mother of infant twins lying on the ground in front of her shack while her babies nursed in tandem. My mother would likely stop and encourage her "*let maman se pli bon let*" (mother's milk is the best kind!). We might hear stories from Dad on why a man had pushed his way to the front of the market crowd waiting for immunizations: "Doc, you have to let me go first. I need to run home and give my pants to my brother so he can put them on and come and get his immunizations too."

We would sing Creole songs by health educators on how to make oral rehydration solution from local

products. We would stop and look at a cooking pot perched on three rocks over a charcoal fire on the ground. Besides remarking on the excellent protein content of the Haitian national dish of *sos pwa*, red beans and rice, Mom would admonish the cook to come back for her third tetanus immunization, pointing out, "If you took away one of the three rocks, the cooking pot would fall down, right? Well that's what can happen to your baby if you don't get all of your vaccines!"

The annual Christmas pageant at Hôpital Albert Schweitzer in Haiti takes place on a tennis court, with live donkeys and goats in the manger. At age five, I called out loudly during the pageant, "Who cut the umbilical cord?" "Hush," I was told, "it was probably Joseph, with a machete." The next question was logical and the obvious one to ask: "Why didn't baby Jesus get tetanus?" Why not indeed? It is a miracle that never seems to get discussed in church.

Fast forward 30 years: I am "Dr. Ruth Berggren of UT Southwestern Medical School in Dallas," but my patients know me simply as "Doctora Ruth." They are Hispanic women with HIV, gay men, and injection drug users coinfected with hepatitis C. I try to teach about adherence to complicated regimens. ("You know how that stool you are sitting on has three legs? What would happen if I cut off one of those legs on your stool? You'd have an unstable situation there, right? Well, that's what will happen if you take only two of your three antiretroviral medications.") Next I may counsel a woman with HIV who brings with her a healthy child, one who did not become infected with the virus. We will remark upon this miracle, and talk about how to keep the child healthy. And so it continues.

RUTH BERGGREN '88
DALLAS, TEXAS

FRANK WITH A PATIENT

PHOTO COURTESY OF BOSTON MEDICAL CENTER

"Dr. Frank's political advocacy, data-driven research, and clinical impact bowled me over."

Food for Thought

In 1989, at the end of my sophomore year of college, I stumbled into a small dinner at Harvard's Kennedy School of Government featuring a pediatrician named Deborah Frank [HMS '76]. As we gobbled down dinner, Dr. Frank began: "Do you realize that there are children starving in Boston tonight?" She then presented emergency department data showing that Boston kids were far more likely to have stunted growth during the winter months compared to the summer. "It's a classic 'heat or eat' dilemma," she explained. The last part of her talk described her clinical work as part of a team devoted to nourishing at-risk children. Dr. Frank's political advocacy, data-driven research, and clinical impact bowled me over. Little did I know then that over the ensuing 15 years, Dr. Frank would help guide me in medical school, inspire me as a resident in her hospital, and even introduce me to the rabbi (her husband) who would officiate at my wedding.

JOSHUA SHARFSTEIN '96
BOSTON, MASSACHUSETTS

"Twenty-nine days after our arrival, all romance was shattered by Bob's accidental drowning."

A Tragic Turning Point

In late April 1982, I arrived in Lambaréné, Gabon, to spend three months as a Schweitzer Fellow, working as a senior medical student at Albert Schweitzer's original hospital. Accompanied by my close friend and brilliant HMS classmate Bob Ely, my anxiety about my rudimentary clinical skills was tempered by a deeply romantic excitement about all the "good" I might be able to offer to Africa.

Twenty-nine days after our arrival, all romance was shattered by Bob's accidental drowning in the Ogooué River. In numerous eight-dollar-a-minute phone calls to family and HMS faculty about whether I should return home, I had to struggle deeply for the first time with my real motivations for traveling to Lambaréné. I soon concluded that running home would forever confirm in my soul that my trip had most profoundly been a matter of comfortable, Ivy League noblesse oblige; staying would at least give me some hope of connecting with, and perhaps beginning to strengthen, a different and deeper motivation for service.

In words that Dr. Jonathan Mann later helped me understand, I arrived in Lambaréné in a spirit of "charity" and left with the beginnings of a deeper sense of human "solidarity"—and of what Dr. Schweitzer called "The Fellowship of Those Who Bear the Mark of Pain."

B. LACHLAN FORROW '83
BOSTON, MASSACHUSETTS

My mentor was Jesus

Saving Face

My earliest, and most influential, mentor was Richard Stark, chief of the Plastic Surgery Department at St. Luke's–Roosevelt Hospital in New York City. One area in which Dr. Stark inspired me was his devotion to working with underserved populations. While I was a resident, I was aware of his frequent visits to Vietnam to perform surgery in a unit he had helped to found. The stories and photographs he brought back provided a "stark" contrast to the usual New York City patient population. Although I was not able to follow his example at the time, later in my career I became involved with Operation Smile. I have since been on more than a dozen missions in South America, the Philippines, Africa, and, most recently, Siberia. This summer, I will lead a team in Siberia. I encourage all physicians—particularly younger ones trained with and somewhat dependent on modern technology and infrastructure—to join one of the many groups involved in overseas volunteer activities. Not only do you perform a critical service for those less fortunate, but the confidence you gain from having to work with minimal technical support is invaluable—if a little terrifying at first!

CHRIS WEATHERLY-WHITE '58
DENVER, COLORADO

A Head Start

I have been blessed to have a number of people who, early on, provided the foundation for my career choice to help meet the needs of the poorest, least healthy, and most isolated members of our society through the National Health Service Corps.

Christ, who spent the human segment of His life caring for all of humanity.

George and Marie Weaver, my father and mother, continue to counsel and live the concept of including everyone, caring for the whole community. From making sure that everyone on our Little League baseball team had the chance to play (if they came to practice) to mobilizing an entire elementary school to pull together for a spring activity, they reached out to ensure that everyone was included. Reaching out to the underserved is a logical extension of their living lesson. I cannot thank them often enough.

Miss Rhoda Kain, my first-grade teacher, had a set of rules about grooming that had to be in place if you wanted to be selected to be a helper for the day. If you did not have yourself together, you were not afforded the privilege of helping others. While Miss Kain is no longer with us, her message of making sure that you are appropriately prepared to accept the privilege of helping others lives on.

Miss Mary Golden, my fourth-grade teacher, had a reading program that rewarded the student who read the most books for the year. She created a lust for learning and emphasized to each student that anything is possible if you set your mind to it. I had the opportunity, a couple of months ago, to visit Miss Golden and thank her for fanning the flames of pursuing possibilities.

Upon reflection, choosing a career in the National Health Service Corps was set in a firm foundation of my early mentors' lessons: including everyone, preparing for the privilege to serve, and recognizing that anything is possible. I hope to reflect their caring, compassion, and commitment as the NHSC works to be an essential component of a health care system that assures access for everyone and eliminates health disparities.

DONALD WEAVER '73
ROCKVILLE, MARYLAND

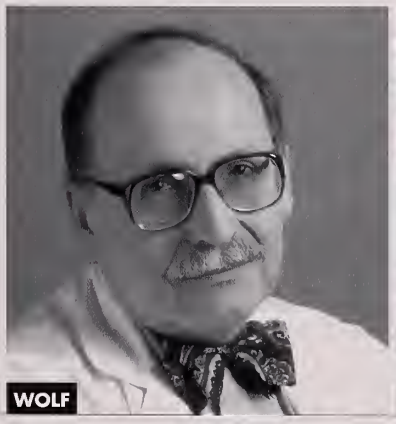
Lessons from the Frontlines

As a hybrid product of Harvard's MD-PhD program, I needed more than one mentor. I've been blessed with many. Arthur Kleinman created a program that would permit several of us to train in both medicine and a social science relevant to medicine; his rigor and critical thinking has always inspired me. Jamie Maguire taught me so much about infectious disease and parasitology, the two areas of medicine that mattered most to me because these were the pathologies I saw in Haiti. Marshall Wolf '63 helped me learn how to take care of patients and also how to cultivate vocation in physicians in training. Howard Hiatt '48 is more a friend than a mentor, but he made me believe that influence can be wielded responsibly—with outcomes that can serve the destitute sick. And then there are the patients, my greatest mentors: in Haiti and Peru and Boston, I have learned so much from seeing patients confront the linked problems of disease and poverty. Patients have been my greatest teachers, but I would never have met so many of them had the path not been cleared for me by the likes of Kleinman, Maguire, Wolf, and Hiatt. Harvard Medical School has been, for me, a mother lode of mentors—and I hope to give something back.

PAUL FARMER '90
BOSTON, MASSACHUSETTS

Heaven Sent

An early inspiration to practice medicine under difficult conditions came through contact with a surgeon who spent much of his professional life in Arabia. As a high school student, I was privileged to hear Dr. Paul Harrison talk about his experiences in taking modern medicine to folks who lived in a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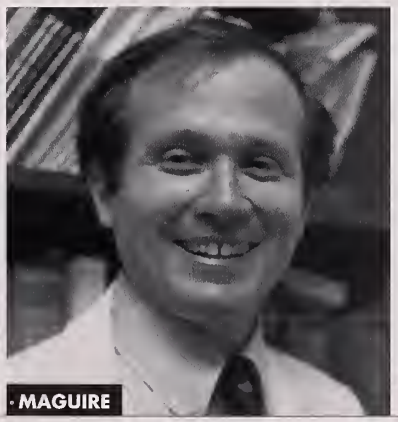
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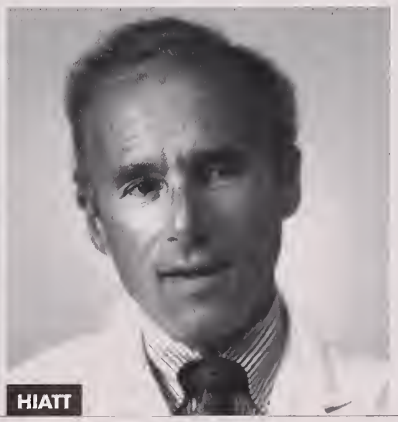

HIATT

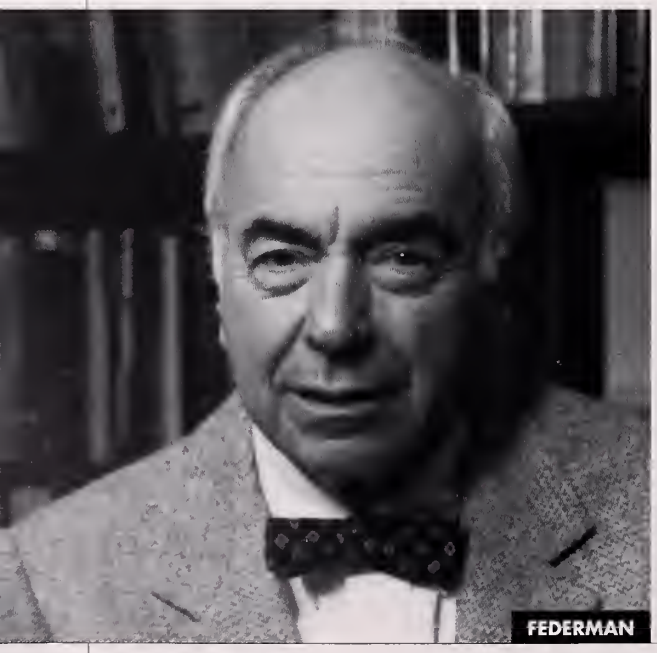
The real strength of Dr. Willis has been her personal devotion to the daily, unnoticed, and

much less than modern society. He had so much fun and got so much satisfaction from doing this that I was inspired to do it myself. I didn't get to know him personally so he was not a mentor, but his experiences and his response to them were indeed an inspiration.

A mentor, on the other hand, is someone whom one knows, admires, befriends, believes, respects, reveres, would like to emulate, and, if possible, would like to introduce to one's friends. As I spent my professional life working in rural Christian medical mission institutions, my mentor was Jesus Christ, who spent the human segment of His life caring for all of humanity but especially for the poor, the sick, the blind, the underprivileged, the rejected—the outcasts of society. I felt privileged to be able to try to do the same thing for poor villagers in a number of countries, particularly Pakistan and China, while trying to emulate my mentor, who said that what one does for the poor, miserable folks in this world is done for Him. I am sure that Jesus enjoyed His role with these folks; I know that I did.

NORVAL CHRISTY '46
DUARTE, CALIFORNIA

PHOTO: GRAHAM RAMSAY



FEDERMAN

Philosopher Kings

I have had a wonderful time doing what I like—caring for sick people, trying to be a good surgeon, and teaching. I have made unusual career changes, such as leaving a busy surgical practice at age 50 and moving my tolerant wife and two small children to rural Haiti. Then later, when I was unable to fit into modern U.S. medicine, I fled to Appalachia. Who was my mentor? No one person, but through the "mystic chords of memory," a phrase attributed to Abraham Lincoln, here is what I heard:

The four maiden sisters of the Confederacy—Miss Ida, Miss Lulu, Miss Virginia, and Miss Mary—introduced me to formal schooling for the first four years in their one-room schoolhouse in rural Virginia. They influenced me by their kindness, fairness, and character.

In taking the road less traveled, I was inspired by my immigrant father, who came to this country alone, at age 19. He became an ardent follower of Ralph Waldo Emerson and carried a book of his essays with him during his many long railroad trips. I have that same well-worn book on my bedside table. "Don't be afraid to be different," my father urged me. "Don't follow the herd." Much of his philosophy was Emerson's, which he passed on to me. I added Thoreau.

Soon after coming to HMS, our class, while sitting in the original amphitheater of the Brigham, watched David Cheever do the first postoperative dressing on a patient who had had a radical mastectomy. I was immediately impressed by his courtesy and kindness to the patient, and by the gentleness of his hands. I saw much more of Dr. Cheever during my training, but that first experience committed me: I wanted to be like him. Many others at HMS inspired me as well—William Castle '21, for example, and a vibrant resident staff at the Brigham, headed by J. Englebert Dumphy.

FRANK LEPREAU, JR. '38
WESTPORT, MASSACHUSETTS

Stamps of Approval

Among the many mentors who have guided me, two in particular stand out in my mind. When I first arrived at HMS, I was an older student, in my thirties. I felt that it made sense for me to focus on teaching and clinical medicine rather than research. But I also feared drifting away from the centers of excellence I had encountered at HMS. Dan Federman '53 had the enormous grace and vision to assure me of the legitimacy of my chosen path in medicine: "Look outside our own door," he exhorted me. "You can do important and fulfilling work by providing excellent care to underserved people who live in Harvard's shadows."

In a similar vein, John Potts at Massachusetts General Hospital, although a hotshot researcher, made an early and strong commitment that the hospital's mission would include caring for vulnerable populations living nearby. When we first crossed paths, I had been thinking of becoming an oncologist, but Potts steered me to the Coalition for the Homeless, a connection that would eventually

often unspectacular work.

result in the Boston Health Care for the Homeless Program. Caregivers who work with people living on society's fringes sometimes risk becoming marginalized by the medical profession but Potts, like Dan Federman, has always offered me unwavering support of my mission.

JAMES O'CONNELL '82
BOSTON, MASSACHUSETTS

Above and Beyond

When, as a high school student, I first heard Dr. Donna Willis introduce her community health program "Heart, Body, and Spirit," I was awed by the eloquence and passion with which she discussed the importance of community service. My real inspiration, though, came later, as I watched her train lay volunteers in simple medical procedures into the early hours of the morning to accommodate their day jobs. I watched her coordinate elaborate health fairs, and then afterward drive community health workers to their homes. I appreciated her rousing speeches and innovative ideas, but marveled more at her patient counseling of health fair participants and commitment to overcome the obstacles inherent in any small-scale community health effort. Beyond all of her eloquence, accomplishments, and vision, the real strength of Dr. Willis's community service message has been in her personal devotion to the daily, unnoticed, and often unspectacular work that powers any successful service project. My experiences with her over the course of several years have nurtured my interest in medicine and service work.

CHIADI NDUMELE '02
BOSTON, MASSACHUSETTS

"It has been the dedication that she has exhibited in her crusade for educating disadvantaged youth."

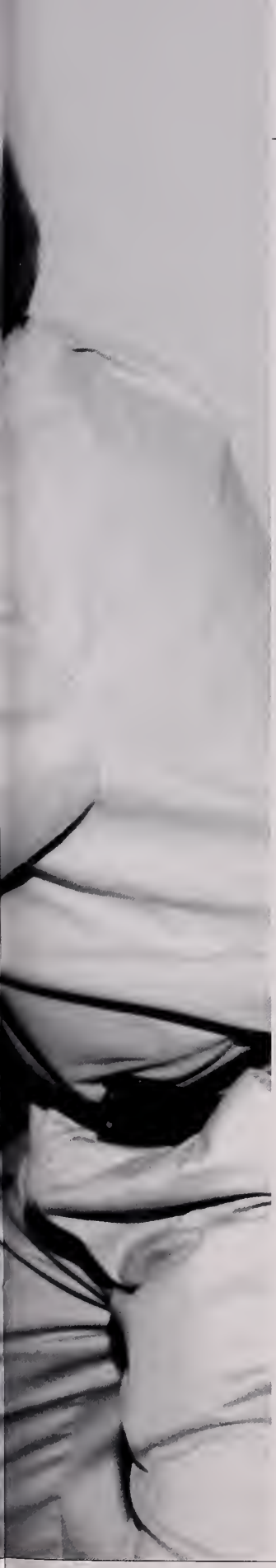
Aunt Glo

When I reflect on all of the people who have had an impact on my life thus far, one very special person comes to mind. Her name is Gloria Singleton, and she has been more than a mentor. She has been a friend and an inspiration. Along with her husband, Alvin Singleton, she has dedicated her life to helping young people get an education who otherwise would not be able to afford it. The Singletons supported me through college, and have helped countless others. It has not been Gloria Singleton's philanthropy that has had the greatest impact on me, however. It has been the dedication that she has exhibited in her crusade for educating disadvantaged youth, and the strength that she has most recently shown in her battle with illness. She told me once that the one way I can pay her and her husband back for all they have done for me is to make sure I reach back and help someone else. Mrs. Singleton, or "Aunt Glo" as I have come to know her, has inspired me to give back to my community, and to be a servant and a teacher to those who need me most.

ZSAKEBA HENDERSON '00
BOSTON, MASSACHUSETTS

MIRROR IMAGES: Robert Zufall charms a young patient into cooperating.

In the golden years of their retirement, doctors discover that the spirit of volunteerism



the golden RULE

yields rich rewards for both recipient and donor

by SUSAN CASSIDY

PHOTO: THE DAILY RECORD, MORRIS COUNTY, NEW JERSEY

IT DIDN'T TAKE ROBERT ZUFALL '47 AND HIS WIFE, KATHRYN, LONG to realize that they wanted to do more with their retirement years than travel the globe as tourists. In the early 1980s, while teaching in Peru and Honduras under the auspices of CARE, they had discovered their mutual interest in working to improve the lives of poor people. Once back in the States, Zufall realized that there was clearly a need for clinic services in Dover, New Jersey, where he had maintained a private practice in urology since 1954. The clinic could serve the city's large Latino population, the working poor in an area that Kathryn describes as "a pocket of poverty in a rich county." >>

After decades of working within a basic primary care. "It's like

By the time he had retired in 1990, Zufall had taken the first steps toward founding the Dover Community Clinic, which began as something of a mom-and-pop operation. In 1991, the clinic became a nonprofit corporation. A year later, the New Jersey Commissioner of Health visited the clinic, and its original $100,000 grant was increased to $235,000. Recently the clinic received a federal grant and was able to buy the building out of which it operates.

Twenty doctors, all retired, volunteer at the clinic, which pays for malpractice insurance coverage for its volunteer physicians. These physicians treat between 10,000 and 12,000 walk-in patients per year; the clinic's dental program has 1,800 visits per year. Prospective patients undergo a financial screening, and only those 200 percent below the federal poverty level—about $32,000 for a family of four—are accepted. They are asked for a small donation ranging from $5 to $40, depending on the services provided.

The Learning Curve

Running a community health clinic has been a learning experience for Zufall. After decades of working within a specialty, he has had to learn how to do basic primary care. "It's like being a family doctor," he says. "Colds, sore throats, diarrhea, aching backs." His wife jokingly refers to her husband as the "toenail king," in reference to one of the procedures that Zufall now performs regularly: surgery on ingrown toenails.

PHOTO COURTESY OF ROBERT AND KATHRYN ZUFALL

HELPING HANDS: "Volunteer doctors can't solve everyone's medical problems, but there's a definite need and a real place for them," says Kathryn Zufall (center).

But the Zufalls' work involves more than just providing medical care. Many of the clinic's patients are members of a transient population—migrant workers who relocate frequently, live with different relatives, and may even return to their home country for a while. Many of them may show up at the clinic only once every other year. This means that the volunteers must make the most of each visit, in terms of preventive education as well as medical care. While families are in the waiting room, children can participate in a reading program; the parents may be shown educational videos on diet, exercise, or dental care. The clinic has also hosted a program in English as a Second Language, run by teachers from a local vocational school.

Such initiatives are a natural extension of providing health care to underserved populations. Everything is interrelated—health, housing, employment. Patients may need to be referred to social service agencies, job placement agencies, or schools where they can learn to speak English or develop other needed skills. The Zufalls seize every available opportunity to advocate for their patients and help them improve their lives. "When you see where many of these patients come from, and how hard they work, you realize how admirable they are," Robert Zufall says. "We're happy to be taking care of them."

This doesn't mean that providing care is always easy. Some members of the population can be challenging: patients who are less than forthcoming about the details of their conditions, reluctant to comply with their doctor's directions, and not always appreciative of the care they receive. "Anyone who

specialty, Zufall has had to learn how to do being a family doctor" he says.

decides to care for the working poor knows that the patients aren't always going to be grateful, or gracious," says Kathryn. But, her husband adds, "We enjoy it. We really have a good time, even though there are challenges."

The Zufalls are proud of the quality of care they can offer their patients. Because there are usually two or three physicians at the clinic at one time, a patient who comes in with a problem can often get a quick consult right on the spot. Robert Zufall enjoys the collaborative nature of the clinic, and describes the atmosphere as friendly and collegial. But most of all, he emphasizes how much fun he and his wife are having, despite the long hours and often challenging work. "We don't feel all that heroic," he says. "It's a job that someone should be doing, and we're doing it."

A Sea of Red Tape

In 1990, after retiring to Boston from a distinguished career as an endocrinologist at Baylor College of Medicine in Houston, Texas, James Field '51 also decided to volunteer his time to help people without access to adequate health care. But when he called the Massachusetts Medical Society to offer his services, they told him that they had no volunteer programs for retired physicians. Then they hung up.

With so many uninsured and underinsured people in the Boston area, and so many retired physicians available to donate their time, Field found it hard to believe that there was no program set up to link these two groups together. "Retired physicians have the experience and expertise, and patients certainly have the need for health care," he says. "It's a win-win situation for everyone."

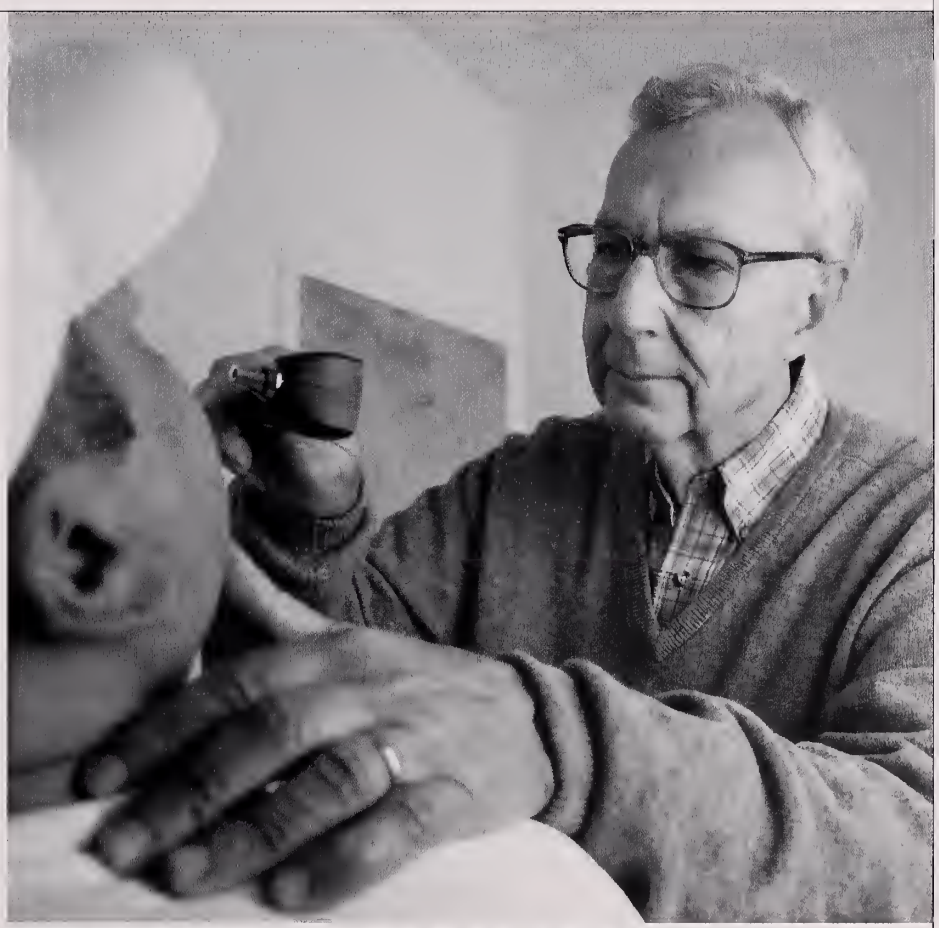


PHOTO: MILTON MORRIS

MASTERS OF THE ART: James Field believes that older physicians are better than younger ones at conducting physical exams and taking patient histories.

Field decided to try another approach: he called around to several shelters. Because he did not have a medical license in Massachusetts and was no longer covered by malpractice insurance, the shelters were unable to accept his help. And when he called other states and made inquiries about their programs, the response he got was, "We want to hear about yours."

Eventually Field made some headway. He called the Massachusetts Medical Society again, and the newly appointed executive director referred him to Leonard Morse, the society's president. Morse immediately saw the value of tapping into the expertise of retired physicians and set up the Committee on Senior Volunteer Physicians (CSVP) to explore the idea, appointing Field as chairman.

Despite great enthusiasm for the idea of retired physicians providing care to underserved, uninsured individuals in Massachusetts, the twin challenges of malpractice insurance and medical licensing keep cropping up. "There are multiple levels of bureaucracy that have

Volunteering

to be accommodated," Field says. The CSVP has been involved in several legislative attempts to resolve the malpractice and licensure issue. Legislation to grant immunity to volunteer physicians, for example, was supported by organizations including the Massachusetts League of Community Health Centers, the Massachusetts Coalition for the Homeless, and the Massachusetts Medical Society. However, the Massachusetts Bar Association and Massachusetts Trial Lawyers Association testified against the bill. Although the bill was reported out favorably from the Combined House–Senate Health Care Committee, it was then referred to the House Ways and Means Committee, where it was never acted upon.

Another bill was introduced into the legislature that would develop a mechanism to provide insurance to retired physicians volunteering free care. The bill proposed that funding for the insurance would be obtained by adding a small surcharge to the premiums paid by physicians insured by the Massachusetts Medical Professional Insurance Association. Again, the bill was not acted upon by the Ways and Means Committee. Other legislative initiatives have also been stalled. "I think eventually it will succeed, but I may not be around to see it," Field says. "It's very frustrating that it's taken so long."

But Field and his colleagues haven't been relying on the legislative approach alone. The CSVP began negotiations with Promutual Insurance Company, which provides malpractice insurance for most Massachusetts physicians. The committee was successful in convincing the company to offer retired volunteer physicians a malpractice liability policy for $500 per year, an 80 percent reduction in the cost of their standard policy. The Massachusetts Medical Society has provided $12,500 for payment of the premiums as a pilot program.

The committee also worked with the Board of Registration in Medicine to develop regulations for a special volunteer license for retired physicians, which would have the same requirements as a regular medical license but would be at no cost to the physicians. The license proposal still must be approved by the Department of Consumer Affairs and Business Regulation, and the State Committee on Administration and Finance. Finally, it would be subjected to the public hearing process before final approval and implementation. Field believes that once a volunteer license has been established, there will be a significant increase in the number of retired physicians in Massachusetts who will volunteer.

Southern Hospitality

Although unable to see patients in Massachusetts, James Field has found a haven for his volunteer interests while taking a break from Boston's winter chill. During a stay of several months in Hilton Head, South Carolina, he volunteers weekly at the Volunteers in Medicine (VIM) clinic, founded by Jack McConnell, who has been a pioneer in helping to establish 42 similar clinics nationwide. The VIM clinic offers free care to poor families living and working on Hilton Head Island.

In South Carolina, a bill has been signed into law directing the South Carolina Board of Medical Examiners to create a special volunteer license for volunteer physicians from other states. The Joint Underwriters Association has offered malpractice insurance to the VIM clinic, allowing physicians volunteering their services to do so without individual malpractice coverage. The policy covers an unlimited number of doctors while they are on the premises. "As long as they're in the building, they're covered," Field explains. "As soon as they walk out the door, they're not."

Field is adjusting well to the transition from specialized medicine at an academic institution to seeing any

CULTURAL EXCHANGE: Iolondo Low (center) ond her young colleagues see potients from Boston's Chinatown at the Shorewood Clinic.

helps you explore areas where you haven't been before," Iolanda Low says. "It's a way to keep yourself alive."

PHOTO: LIZA GREEN

patients who walk through that door. Because of his background in endocrinology, cases involving diabetes or endocrine diseases are often passed along to him. But a key aspect of volunteering is venturing out into non-specialty areas. "It's a much broader practice," he explains. "I end up seeing cases that are not necessarily in my area of expertise." In addition to the learning curve, Field cites another positive aspect of working as a volunteer: "One tremendous advantage is that you don't have an HMO telling you to see a patient every 15 minutes. You can spend as much time with the patient as necessary."

Pay It Forward

While Field ended up traveling south to work as a volunteer, the CSVP has enjoyed a measure of success in helping 15 retired physicians in Massachusetts find volunteer positions in community health centers and free clinics. One of those physicians is Iolanda E. Low '53. Low's involvement with volunteering began at a party at the time of her retirement, when a Tufts professor urged her to teach first- and second-year medical students on a volunteer basis, telling her simply, "We want you." Low believes that working with students is important for retired physicians. "Teaching keeps you in contact with younger people," she says. "It's important not to lose that communication."

Low had maintained her medical license, so she was also eligible to volunteer to treat patients. Through the CSVP, she had learned about the Sharewood Free Health Clinic, which serves the residents of Boston's Chinatown and South End. Sharewood was established by medical students at Tufts University, and medical students from Harvard and Boston University come to help on a regular basis. The clinic is held in a church basement on Tuesday evenings and provides translation services in Mandarin and Cantonese to its patients.

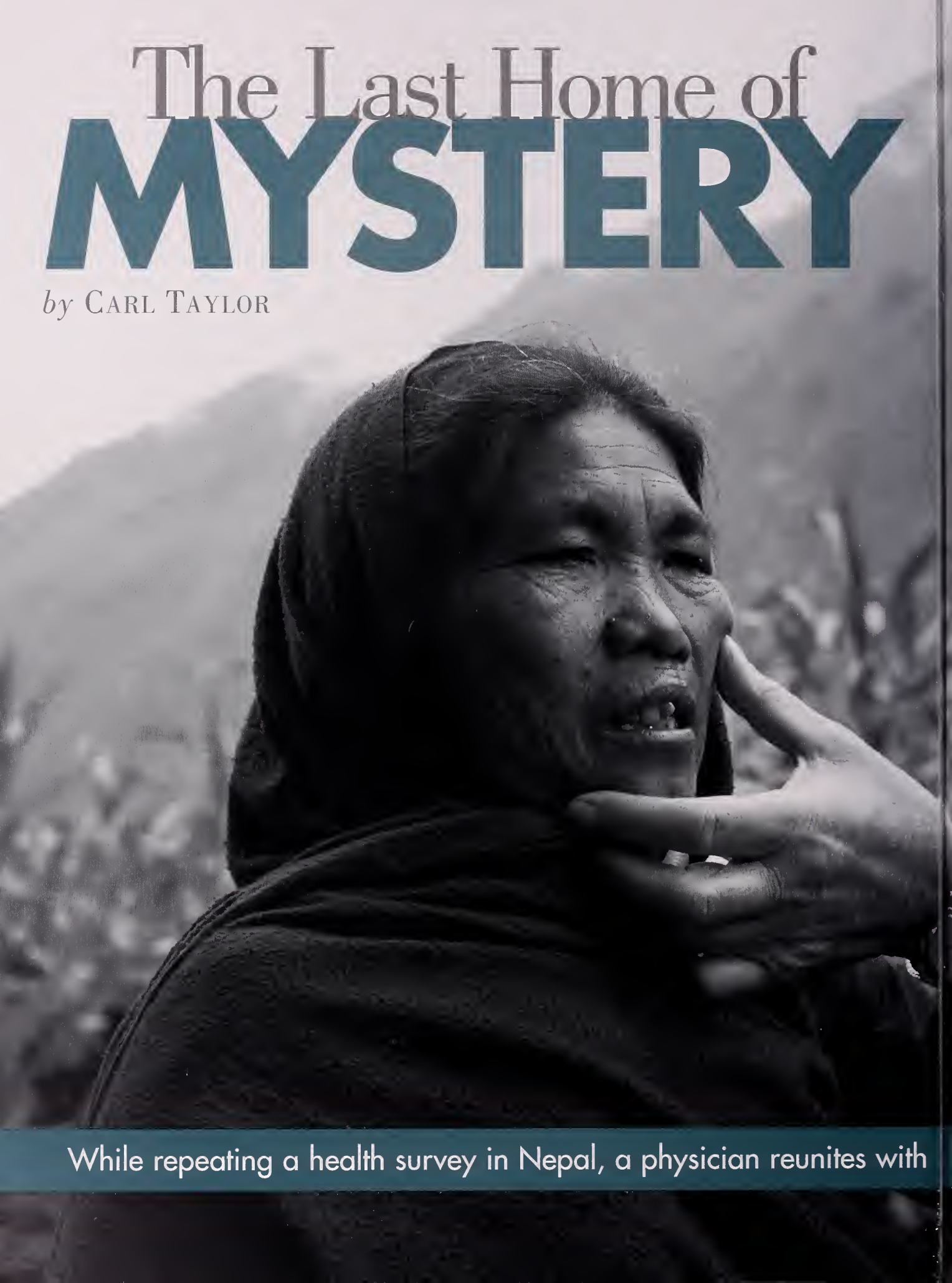
As soon as the legislature allowed the Massachusetts Medical Society to provide low-cost limited malpractice insurance to retired volunteer physicians, Low began seeing patients at Sharewood in addition to teaching. "That's how I got lassoed in," she says, laughing. Although her specialty is infectious diseases, at Sharewood she sees any patients who walk through the door, with conditions ranging from sore throats to diabetes and hypertension.

Once upon a time, Low jokes, she thought that instead of retiring, she would probably die with a stethoscope around her neck. Now, in retirement, Low still keeps her stethoscope close at hand. Clearly she finds her volunteer work rewarding, and she values the new ideas and experiences she is exposed to at Sharewood. "Volunteering helps you explore areas where you haven't been before," she says. "It's a way to keep yourself alive." ■

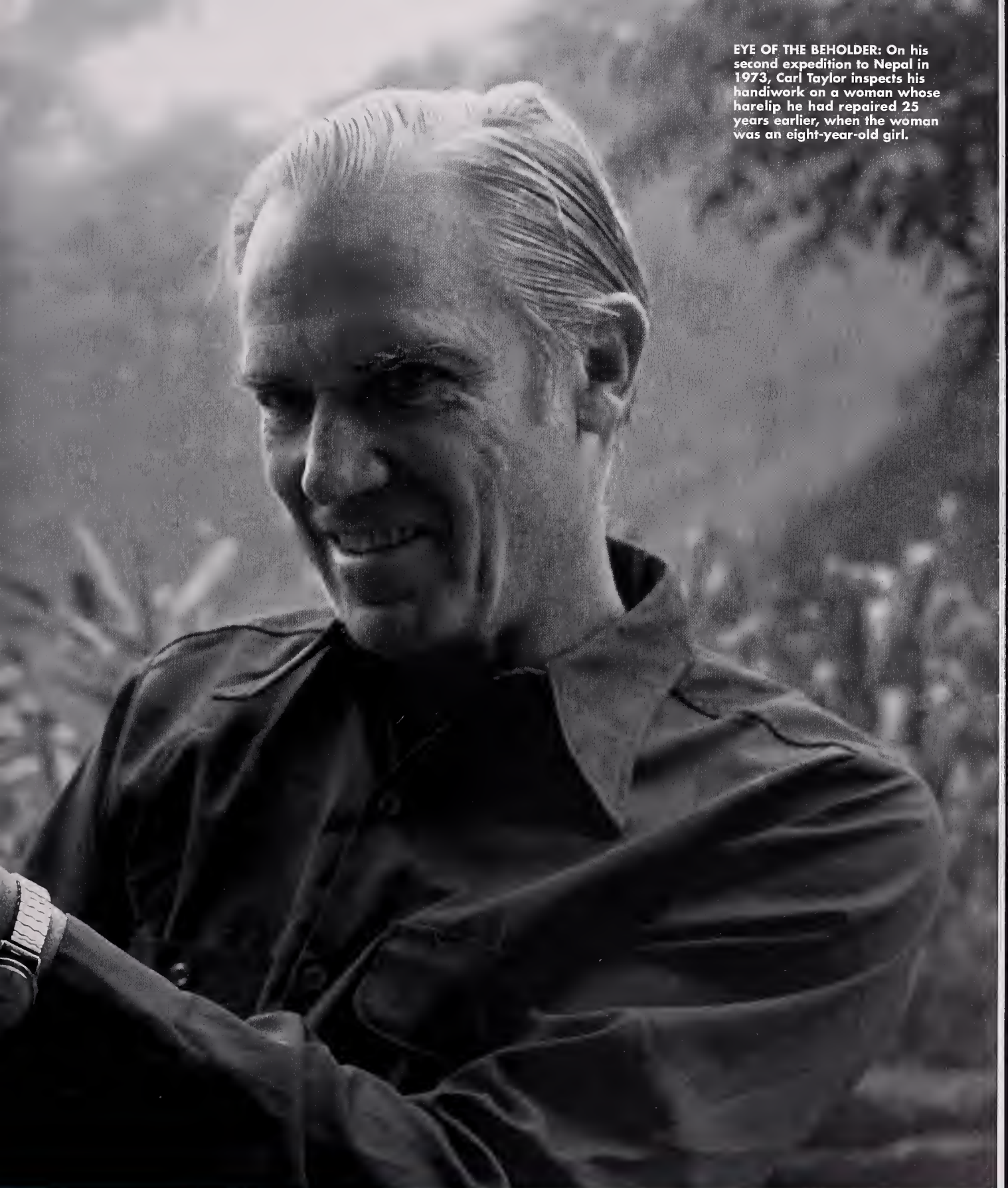
Susan Cassidy is assistant editor of the Harvard Medical Alumni Bulletin.

The Last Home of MYSTERY

by Carl Taylor



While repeating a health survey in Nepal, a physician reunites with



EYE OF THE BEHOLDER: On his second expedition to Nepal in 1973, Carl Taylor inspects his handiwork on a woman whose harelip he had repaired 25 years earlier, when the woman was an eight-year-old girl.

patients whose surgeries he had performed half a century ago

IN 1949, I WAS THE DOCTOR FOR A CHICAGO MUSEUM of Natural History expedition that was given permission to collect birds and other specimens from the interior of Nepal. We were honored to be among the first foreigners allowed entry to a place described, at that time, as "The Most Closed Country in the World" and "The Last Home of Mystery."

From October through December, members of our expedition hiked a transect from the Indian to Tibetan borders along the Kali Gandaki watershed. I had taken along only a simple surgical kit—in case a member of the expedition needed an appendectomy—as well as plenty of novocaine, iodine, and penicillin. Little did I suspect, when starting out on the expedition, the significant role these rudimentary supplies would come to play during our journey.

The Nepalese Government had made a request for a health survey. Seeing patients along the route of our expedition seemed the best way of gathering information on the country's disease burden. And, in the end, I did complete the first published health survey ever conducted in that country. But the people whose villages we passed through certainly would never have tolerated a laboratory-based, detailed study until I had created a rapport with them. So, over a period of three months, I ended up caring for more than 800 patients and did 57 operations, most of which were performed on people lying on stone fences and temple platforms.

The first large town we came to after entering the country was Tansen. On my first day of seeing patients, the local mayor, or "Subha Sahib," as he was locally known, turned up with a large basal cell carcinoma of the right corner of his mouth. The Rana Governor General, who ruled West Nepal, stated very clearly that he would not permit this valued official to travel to India for surgery. After extensive negotiations, the general finally said, "If you are not able to care for a simple sore on a man's face, then perhaps we should cancel permission for the expedition!"

"Do something, please!" Bob Fleming, our expedition leader, urged me, as he envisioned our hard-won opportunity slipping away. When I objected that the necessary surgery performed under local anesthesia would simply be too painful to bear, the patient assured me, "A Nepali Gurkha can stand any pain." Yielding to that kind of pressure, I proceeded to do a complete resection with the mayor stretched out on a temple platform and about half the population of Tansen as my eager audience. The mayor never flinched, and every time I cut a spurting artery, the crowd offered much enthusiastic advice.

After I had sewn together the muscle layers for a somewhat puckered mouth and had placed the dressing, the mayor sat up and waved to the cheering crowd of spectators. I started to arrange a tent for postoperative care, but my patient shrugged off my preparations, telling me he intended to walk home. So I gave him a handful of codeine and aspirin and watched in amazement as he strode away.

After that, it was difficult to refuse any procedure. Most of the expedition's porters eventually consisted of family members of patients waiting for surgery. Some of the procedures they considered most dramatic took place on children. I operated on more than a dozen cases of burn contractures of the hand to free up small fingers that had been terribly scarred; curious babies, crawling around the mud floors of their dwellings, would sometimes pick up live coals. I repaired an equal number of harelips, and also took care of a softball-sized bladder stone in one small boy.

The effects of surgery struck many local observers as nearly magical. One day, people from a Baglung village in the middle hills watched in amazement as I made a single incision in the abdomen of a man who was unconscious and seemed nearly dead. To their horror, a stream of anchovy-paste pus spurted out 18 inches from a massive amebic liver abscess and filled two buckets. The next day, the patient was talking normally, eating, and sitting up; the day after that, he was back on his feet.

Village folklore would later embellish the memory of the man's presurgical swollen abdomen as being doubly pregnant in size. His family and friends had carried him for six days in a litter over mountain trails from his home village to seek my help. When I first saw him, I told his entourage that, tragically, the case was beyond any care I could provide. But his friends retorted that they were not going to carry him six days back to his home, so I had better do something! It was obvious that incision and drainage was the only treatment possible, but very risky. It is perhaps not surprising that, on a return visit some 50 years later, the original witnesses to that surgery, by now village elders, could still recall in vivid detail what had seemed to them a miracle.

The Exotic and the Mundane

The resilient spirit of many of the Nepalese patients we encountered on our 1949 expedition served them well in a rugged environment. The report of our first health survey documented health conditions in each region across the country and outlined the challenges. Some diseases had rendered surprising beneficial effects. The notorious malaria of the pristine Terai Jungle,

1949

Carl Taylor's First Trip to Nepal

located just below the Himalayan foothills, had historically protected the Nepalese border with India from military invasion, and helped keep the British at bay in the two Gurkha wars. Only the hardy Tharus, a jungle tribe with high resistance, were able to live in the inhospitable Terai.

In most of the other areas we surveyed, we found more familiar and tragic patterns of illness. In the middle hills, for example, diarrheal diseases dominated the clinical care. The leading cause of death in children was diarrheal dehydration, as has been the case in all traditional societies throughout history. The cause of this widespread suffering was readily evident, as we could smell a stream along the trail before we actually came to it. The Nepali practice of washing after defecation effectively contaminated all sources of water as latrine areas. In addition to the usual acute watery diarrhea, a significant percentage of people also suffered from chronic diarrhea. And we saw many patients with enlarged, tender livers and the clinical symptoms of amebic dysentery.

In the high mountain regions, people suffered from both diarrhea and common respiratory diseases. Pneumonia was the second leading cause of death in children as, again, has been typical around the world and throughout history. The raspy sounds of chronic coughing punctuated the village nights, particularly from older people who had endured years of exposure to dense smoke from open fires in unventilated stone houses or thatch huts. Gurkha soldiers serving in the British Army had imported practices from the outside world such as cigarette smoking, which swept the country. The synergistic interaction of tobacco and heavy fireplace smoke exposure in homes had greatly aggravated the high prevalence of chronic obstructive pulmonary disease and emphysema in the elderly. In addition to smoking-related illnesses, returning soldiers brought back sexually transmitted diseases.

BEASTS OF BURDEN: On their first expedition to Nepal in 1949, Carl Taylor and his colleagues entered the Nepal Terai on the backs of elephants. Highly trained hunting elephants such as this one proved invaluable in navigating the dense forests at the foothills of the Himalayas. The elephants were capable of delicately retrieving with their massive trunks birds that had been shot and fallen to the forest floor.

NATURE OF HEALING: Surgery on a stone wall on an eight-year-old boy with a burn contracture that fused his fingers to his palm. In the absence of conventional operating facilities, Taylor successfully performed 57 surgeries in outdoor settings during his three-month trek, including at least half a dozen operations on this particular stone wall.

STRANGE BIRDS: Local yak herders assisted members of Taylor's bird-collecting expedition by guiding them to the habitats of several rare, high-altitude specimens of pheasants and quail. The yak calves pictured were prized for their milk, meat, and fur.

1999

Return Trip to Nepal

MOUNTAIN RETREAT: Henry Taylor considers joining a hermit in his cave. Hindu holy men—some of whom are priests, some of whom are simply moved by a spirit of mystic faith—seek out high-altitude caves as dwellings and places of sacred meditation.

LIVING HISTORY: On his repeat expedition to Nepal, Carl Taylor relied on the sharp memories of key local citizens such as this highly educated woman to fill in the life and medical history gaps of people he had treated half a century earlier.

VISION FOR THE FUTURE: Female community health volunteers administering vitamin A drops to children. In the past 50 years, the work of these women has contributed greatly to the health of local women and children in Nepal, where infant mortality rates have dropped by 50 percent.

Certain valleys harbored pockets of illness of a more exotic nature. In Pokhara Valley, we saw residual cases of an earlier encephalitis-like epidemic that frequently led to nerve deafness. In several places, asthma was almost epidemic, and blood smears examined later revealed high rates of eosinophilia. In one area, several children had bladder stones. And I gave the name "Lumpek Knee" to a severe arthritis that produced the massive exostoses of a classical Charcot's joint, due not to syphilis, but to the constant trauma of portering heavy loads down steep mountain trails.

Silver and Gold

Twenty-five years after the first journey, we organized a repeat expedition with a peripatetic class of about two dozen American and Nepali medical students. At a police post near the entrance of the Kali Gandaki Gorge between Mounts Dhaulagiri and Anapurna, I was surprised when officials had arranged for me to see a former patient whose harelip I had repaired during the original expedition, when she was just a child. The beaming woman brought along her happy family, which now included two children of her own. It gave me pause to consider that, had she not had surgery on a stone fence a quarter century earlier, she would have had a bleak future; the local people considered physical anomalies such as a harelip evidence of the presence of an evil spirit. Traditionally, the afflicted person would have been shunned and kept hidden in a dark room.

When we organized yet another repeat expedition to Nepal in November 1999, the main purpose was to document changes that had taken place in the environment and ecology, socioeconomic status, and health equity in the 50 years since we had conducted the first study. Our only support, other than personal funds, was a small grant from the Rockefeller Foundation Health Equity Initiative.

PARADISE LOST: Local residents washing clothes on the shore of a then-pristine lake in Pokhara in 1949.

The person who contributed most to the expedition was Bob Fleming, Jr., a leading Himalayan ornithologist and ecologist whose father had led the 1949 expedition. But the genealogical connections didn't end there. The golden anniversary expedition was also a gratifying opportunity on a personal level. Three generations of my own family—myself, my two sons (including Henry Taylor '79), and six grandchildren ranging in age from eight to nineteen—trekked across Nepal.

As we returned to familiar villages, we went down the lists of patients treated 50 years earlier, and old-timers updated us on what had happened to most of them. Each of us chose a special project: Jesse, the oldest grandchild, did repeat photography to document ecologic change (he is the second youngest author ever to have an article appear in *National Geographic*); Chris followed the trek by running across Nepal in five and a half days; Luke studied butterfly density; Ruth investigated the nutritional status of children; and Caleb and Anna examined the games and toys of Nepali children.

The passage of time, we discovered on our 1999 expedition, has had mixed blessings for Nepal. In the 50 years since we began tracking health conditions there, Nepal has probably been more overrun by foreigners than almost any other developing country, thanks to the beauty of its environment, its amazing people and culture, and the adventure potential of having the highest mountains in the world. The outsiders have included foreign aid agencies trying to improve health and socioeconomic conditions.

Mortality decline due to socioeconomic development and basic public health programs has reduced deaths by about half. This has contributed to the almost tripling of human population in the past 50 years, and population growth now dominates all aspects of development. But these gains have not been made without cost or consequence. In the Terai, what were once the world's most exciting jungles have been almost totally wiped out, mainly because of malaria control with DDT since the 1950s. The jungles have been replaced by rice fields that are temporarily feeding the growing population. Yet food equity remains in severe jeopardy; our surveys found that half of the families in the middle hills, where most Nepalis live, run out of food stored in homes for three to six months of the year and are reduced to subsistence living off of daily wages as porters or in the Terai. The women and children make do as they can back in the villages.

Government health services in Nepal provide the anatomy of a health system, but one with minimal functioning physiology. Although all facilities were designed as a unified government health system to be supported by public funding, that has been steadily shrinking because of the economic adjustment policies of the World Bank and International Monetary Fund. Almost all public funds go into salaries, which have not been raised for many years, and essentially nothing is left over for medications

or any other support for health facilities. Better quality services in both private and government hospitals and expanding specialty services are increasingly available in towns and bazaars.

As in most poor countries, care is paid for through booming privatization, which creates massive problems of access for the poor. Globalization of pharmaceutical sales dominates acute medical care. Uncontrolled sales in flourishing "medicine shops" have become the main source of income for health staff. Government health posts have few medicines but, typically, the medicine shop next door—run by the family of the health assistant—stocks all the popular drugs.

Public health services have tended not to be sustainable when they have used vertical campaigns. The exception seems to be the UNICEF program in the 1970s that installed plastic pipes for bringing water into villages, so that safe water now reaches most homes. Immunization of children is still available for families who take the initiative of going to health posts, but outreach is limited to national immunization days aimed at eradicating polio. People prefer oral drops to injections, and little is done to convince mothers that they still need to bring in their babies for other shots. A mass program for the semiannual distribution of vitamin A drops to children under five is slated to achieve national coverage. A Johns Hopkins field research team based in the Terai under Alfred Sommer '67 has demonstrated remarkable maternal and child mortality reduction.

Female community health volunteers (FCHVs) represent the main hope for services for the poor, and for women and children. Systematic community empowerment is needed to help the 46,000 FCHVs who now work in all the major villages. They do social mobilization for services such as family planning and oral rehydration and are the main mobilizing force that maintains public health coverage in polio eradication and vitamin A distribution. But they receive little formal support or recognition from health posts, village development committees, or the polio eradication program. Their main support is from the vitamin A program. A systematic building of their capacity would energize the whole health infrastructure. Decentralization and scaling-up of successful demonstration projects could promote effective, community-based primary health care.

The FCHVs were blunt in describing the sacrifices their work imposes on

Home Schooling | *by* Henry Taylor

A developing notion like Nepol hos much of volue to goin from—and to teoch—the West obout health equity. When I accomponied my fother an his repeat expeditian ta Nepal 50 years after he published his first health survey af that cauntry, I could not help but be struck by o number of historic porollels between conditions there ond here in West Virginio, where I om stote heolth commissioner.

Indeed, morbidity patterns in West Virginia 100 years aga were quite similor ta those seen in Nepal at the time of my fother's first heolth survey in 1949. Records from 1893 show thot the single greotest couse of deoth in West Virginio wos diphtherio. In 1896, it was chalera infantum, a diagnastic label far all infantile diarrheas. Yet during the decade of the 1930s, West Virginio went on to receive recognition os o leoder in U.S. rurol heolth core thonks to the constructian, in a ten-year periad, of 300,000 pit privies, which greatly alleviated the kinds of sanitotian prablems with which Nepol hos olso struggled.

Both West Virginio ond Nepol, despite their enormous differences in health status ond resources, continue to wrestle with the challenge of providing cleon drinking water ta their citizens. Plostic pipes con get the jab done in Nepoli villoges, but towns remain in need af more permanent and expensive systems. In West Virginio, o revolving laan fund, which will eventually tatal mare thon $68 millian fram state ond federal saurces, is currently being used ta expand small public woter systems ond reduce the need for isolated homes to drill wells ar collect roin or surfoce woter.

While both oreas are blessed with abundant surfoce woters flowing dawn steep mauntain valleys, ropid industriol development is putting pressure on governmentol ogencies in West Virginia ta relax the environmentol stondords imposed by the Clean Water Act ond the Sofe Drinking Woter Act of the 1970s. All water in West Virginio is currently deemed drinkable, meaning industries must odequotely treot their dischorge before it enters o streom, except in limited areas. Yet the chemicol ond monufocturing industries want ta shift the burden of protection, so they can discharge waste inta streams unless testing documents unacceptable levels at the intokes of public water systems. Recently, the governor issued on executive order empawering me os stote heolth commissioner to issue "fish cansumption odvisories" ogoinst eating certain fish taken fram specific oreos. Cleorly, the United Stotes is struggling ta bolonce o toxic lifestyle and the noturol environment.

Molorio remoined a prablem in West Virginia until cantrol meosures after Warld Wor II reduced masquita breeding. More recently, the stote hod to reinstitute masquita cantrol progroms due ta mossive masquito breeding in scrop tire piles. The black rubber worms rain water ond thus creotes on excellent habitat for mosquita vectars of LoCrosse encephalitis and, potentiolly, West Nile virus.

West Virginia is the second mast rural stote in the United States, with the highest median age and the lowest median income. Its citi-

their families. A typical focus group was in Lumpek, north of Tansen, reached by a vertical climb of more than 5,000 feet. Fifteen women were attending a training session for vitamin A distribution. Some said they had awoken before dawn and walked for three hours to get there. With much passion, they told us that they have to be available for 24-hour workdays when the polio and vitamin A campaigns take place twice a year.

"When we get home," one of the women told me, "the cows, buffaloes, and pigs are all hungry, the children are crying, and our husbands are unhappy because the food is not cooked. We get very little support from the health post or the village development committees; all they give us is orders."

When asked why they continue this volunteer work, the FCHVs shouted their response. Their neighbors wouldn't let them resign, they told us, because the children's health depends on them. Their neighbors further criticize them, because they assume the women are making a profit from their hard work. The women have almost no medicines or supplies, so they are supposed to charge for medicines in order to purchase their next supplies, but the poor people cannot afford even minimal expenditures. Yet Lumpek's dropout rate was typical of that in all villages; out of the fifteen women who started training six years ago, only two have resigned and been replaced.

Sustainable health progress will require health equity to become a priority government objective. Nepal is a case study of the reality, which the United States also needs to accept, that health care must include essential services for the poor and neglected, not just private services for families with resources. In Nepal, diseases are concentrated among the poor, who, when desperately ill, take out high-interest loans at medicine shops. The resulting spiral of debt is a major reason for the nation's continuing poverty. Health conditions will not improve until priority public health programs reach these families. Unfortunately, such programs have essentially collapsed in both Nepal and the United States. ■

Carl Taylor '41 is professor emeritus of international health in the Department of International Health at the Johns Hopkins School of Public Health.

zens have a growing need for medical care but face difficult barriers. Since the 1940s, the leading cause of death in the state has been cardiovascular and other chronic lifestyle-related diseases, as is also true of affluent families in Nepal. The state legislature developed a network of community-based primary care centers in medically underserved areas in the 1970s and 1980s. Now there are more than 100 community-run practice sites in the most inaccessible areas, one of the largest number of any state, and certainly the highest per capita.

Small towns in West Virginia have faced great difficulty in recruiting and retaining primary care providers to replace the disappearing country doctors who had served so well for so long. Along with the development of community-run health centers, the state has begun programs to attract a new breed of "modern" country doctors and essential specialists in obstetrics, pediatrics, and surgery. In fact, I became a West Virginian "by choice" through the National Health Service Corps by developing a community health center in a sparsely populated area to practice internal medicine without a hospital.

As in Nepal, pilot projects prove the efficacy of lay workers in community health, especially in the area of prenatal and early childhood care for the growing numbers of people with no health care coverage. Without ongoing state or federal reimbursement, these efforts have never gone to scale. In a small network of faith-based practices, community members do health education and support. An overwhelming expansion of Volunteer Rescue Squads provides essential emergency services to small communities. Some businesses are seeing a measurable return on investment from employee-run worksite wellness programs. Other projects are exploring the provision of diabetic care through a Medicaid waiver, and systematic coverage of tobacco cessation products and counseling.

The greatest challenge for the future, in both Nepal and West Virginia, is health equity, or health care for the poorest and most needy. Equity is a fundamental value for all health care systems and a primary determinant of sustainable health development. Reviewing health system and health status changes over 50 or more years highlights important trends in equity, trends that get blurred by the chaos and commercialization of day-to-day health care delivery.

In Nepal, the immediate need is for a community support system for female community health volunteers. As a result of my father's surveys, donors have started a systematic effort to develop support mechanisms for them. In West Virginia, internal complexities and competing private and public interests make workable solutions more uncertain and difficult. Political pressures make it necessary to gain public support for preventive programs. Grassroots efforts by empowered community action groups, but shepherded by governmental agencies and experts, seem to be the most cost-effective way to infuse equity into society and, especially, into our respective health care systems. ■

Henry Taylor '79 is commissioner of the West Virginia Bureau for Public Health.

PHOTOS: SEBASTIAO SALGADO. TOP: ANNA FLATTAU, RIGHT

THE YOUNG WOMAN LAY DYING IN A HUT ON THE OTHER SIDE OF THE MOUNTAINS. I RODE FOR several hours in a van, winding through the mountains, past two military checkpoints and several towns. Finally I stepped out onto a dirt road leading off the highway. In my backpack was a list of tuberculosis patients from the highlands of Chiapas from the past six months; in my right hand was an ice-filled cooler for the sputum samples of patients with a productive cough—those who were being cured, those who had relapsed, those who could not be cured. My accouterments reminded me of my mission here: to discover what had happened to these patients, indigenous people living in great poverty in the countryside.

As I walked along the path through the green, rolling hills, breathing the fresh, cold air filled with the aroma of vegetation, I already knew the limitations of my mission. Now toward the end of my nine-week summer research project, it was clear that the sheer misery of the indigenous people living here was so great that the help I could offer was usually

Days of the Dead

A medical student sheds light on the harsh realities of life—and death—for indigenous people with tuberculosis in the highlands of Chiapas, Mexico

by Anna Flattau

TRAGIC CYCLE: A refugee camp in Polho, Chiapas (above). A large portion of the population who live here are children; they are basically healthy, but as time passes many develop tuberculosis. Right: A man from a shantytown on the edge of San Cristóbal lies dying of tuberculosis in a local hospital.

t was clear that the sheer misery of the indigenous was so great that the help I could offer was usually

too little, too late. I recorded the stories they told me about their illnesses in my notebook, and although I might repeat in my voice what they had told me in theirs, the fruits of my labor were unlikely to bear them succor. By the time I could pass on the stories of their suffering, many would have died.

I was fortunate this day, because the men in the first house I approached led me to the woman I was seeking. They spoke no Spanish, but with her name and the indigenous word for "tuberculosis," I made myself understood. I followed them to the yard outside her hut, whose dirt walls were topped by a thatched roof. They spoke briefly with her husband who, like them, wore a knee-length white tunic belted at the waist. Children stood watching me; a dog barked furiously. The men beckoned me inside while a boy ran to find someone to translate.

In the one-room hut, I saw Doña Rosa curled on her side, wrapped in a worn blanket on a bed of naked boards. From my list of patients, I knew that she was 29 years old and had been diagnosed with tuberculosis at a government health clinic six months before. She was clearly nearing death: her face had been transformed into the wasted, ageless mask of tuberculosis, and her limbs were bone-thin. She moaned softly, and her quick, shallow breaths rattled through clogged airways. From time to time, she put her fingers to her mouth and extracted gobs of phlegm, which she dropped onto the floor.

I feared that my words would be inadequate to describe the gravity of her situation to the doctors at the hospital in San Cristóbal, the main city of the highlands. I was a first-year medical student who had not yet learned to perform a physical examination. It occurred to me to count her respirations: 40 breaths per minute, I diligently wrote in my notebook.

Over the next week, I returned twice to this village. I learned that after diagnosing her with tuberculosis, the clinic workers had given Doña Rosa antibiotics. She took them for a time, but when she ran out, her husband did not make the necessary three-hour walk through the mountains to the clinic. She had not improved, and the pills had given her a burning sensation in her stomach. A village official confirmed that there was little food in her house: she had taken the medication into her malnourished body on a near-empty stomach. I offered to have the Red Cross ambulance drive her to the hospital. After deliberating overnight, her family decided that she should stay at home. In the hospital, they said, people are more likely to die; and in any case they had not a single centavo to pay for medications or the expenses of family members who would accompany her to the city. Although I said I could help, they decided that if she was to die, it would be better for her to do so at home.

I asked if others in the area had the same disease. Doña Rosa's family mentioned several, at least one of whom was also nearing death. Their homes were scattered in the mountains, and there were no paths. I tried to have the village officials deliver containers to their houses so I could collect the sputum samples on a subsequent visit, but the containers never reached the houses, and I came back empty-handed. The following week I returned to the States.

Uncivil War

Doña Rosa was one of 44 people with tuberculosis whom I sought out and interviewed about their course of illness. All were listed in the health district's registries of tuberculosis patients as having been diagnosed or having submitted a sputum sample within the previous six months. Of these patients, eighteen were "sick," defined as continuing to have a chronic productive cough or having had a recent positive sputum smear, despite treatment. Three of the patients were dead. Sixteen were "well"—that is, they had completed at least three months of treatment for tuberculosis, or had abandoned treatment, yet no longer had a chronic productive cough or a positive sputum sample. Five had completed fewer than three months of treatment and were continuing to take the medication, so their outcome was not

people living here too little, too late.

yet certain; two did not give adequate information about their current state of health.

In addition to these patients, I spoke with 19 people not on the original list—chronic coughers pointed out to me by local clinic staff or community members, or family members of the patients. All in all, I interviewed 63 people with tuberculosis in 32 different villages in 13 municipalities of Chiapas.

Doña Rosa's story was not unique. The highways leading out from San Cristóbal were dotted with the villages of other patients I had visited, many of whom had also received suboptimal treatment. One of the first patients I visited was a pregnant mother who lived a three-minute walk from the local clinic. She was attending the clinic regularly for prenatal visits for her baby, who was due that month. Yet she was not being treated for a relapse of tuberculosis so severe that she looked skeletal. She slumped in a chair with her head lolling to one side as she told me that she could no longer sleep because of constant coughing.

The clinic had sent two sputum samples to the hospital laboratory, but because the smears had been read as negative, her case had been dropped. I insisted that the local clinic doctor examine her, but, surreally, it seemed as if the doctor and her assistant were oblivious to the fact that the woman was dying. They said that she did not respond well to her first treatment because she was malnourished. I paid the bus fare for the woman to go to the hospital, where an x-ray showed that her lungs had been largely destroyed by the disease. The last I heard, her baby had been born. Soon afterward, she checked into the hospital because she had begun to cough copious blood, and it had not stopped for three days.

Epidemic of Injustice

Chiapas is best known abroad because of the armed indigenous uprising in 1994 by the Zapatistas, who include adequate health care among their demands on the government. Further media coverage about the region followed as a result of episodes of violence and government-backed atrocities. Most recently, the possibility of renewed negotiations with the government and the arrival of the Zapatista leadership in the Mexican capital have made international news.

This conflict between the Zapatistas and the government is best understood when viewed against the backdrop of daily life in the region—the desperation of the

GRIM TOLL: A man awaits treatment for tuberculosis in a clinic in Chiapas, Mexico. His wife's tuberculosis was cured a dozen years ago; their daughter is receiving treatment and their son was recently diagnosed.

indigenous population's situation, so grave that some were willing to lose their lives in the hopes of improving their people's lot. The purpose of the uprising was, presumably, to call attention to the everyday atrocity of leaving people to suffer hunger and sickness because of their status as second-class citizens. The gun battles, machete attacks, and political speeches have been given more attention, however, than the profound suffering that slowly and silently unravels in Chiapas every day.

After several weeks there, I began to find the soldiers who dotted the highways less disturbing than the doctors who, despite their professional and moral mandate to save lives, seemed not to care for their patients. The soldiers were trained to carry guns; they would shoot people if so instructed, but could be withdrawn from the region—as reportedly they have been—with a single order. The poor quality of health care for indigenous people, however, is more insidious. Like many other deep-rooted injustices, it will be harder to change.

In many of the cases I saw, the Mexican health service's mandate to treat and control tuberculosis did not seem to apply to indigenous people in Chiapas. Certainly

After several weeks, I began to find the soldiers who, despite their professional and moral

more have suffered, been disabled, and died from lack of treatment for this disease alone than from gunshots. When I witnessed the insufficient medical care some of these patients received, it seemed to me to be a form of violence as well.

After spending some time in the clinics, I understood why people often waited until they were direly ill before approaching a doctor. Patients who barely understood Spanish were quickly shouted instructions that they often could not comprehend. People who arrived in the clinic in pain languished in the waiting room while, within their earshot, the medical staff sat idly, chatting among themselves and laughing. One doctor banged ceaselessly on a gigantic manual typewriter while interviewing his patients, intimidating them greatly. Often there were no medications—and no indication to the patients whether the drugs would ever arrive. One doctor told me that, upon arriving at a clinic one afternoon, she had found a corpse stretched out in front of the clinic doors. Office hours had ended, and the staff had forced the man to leave because their shift was over. Desperately ill, he had simply died there.

Forgotten Souls

Insufficient care for tuberculosis patients was not limited to rural clinics. Of the patients who had been diagnosed with tuberculosis by the health district's laboratory in the previous six months, two had never learned of their diagnosis. Their names had been listed in the laboratory's diagnostic book, yet the doctor in charge of tuberculosis control had neglected to transfer their names to her log and initiate treatment.

The first such case I uncovered was that of Don Luis, an elderly man who lived in a muddy street of the small city of Villa las Rosas. His sputum sample had been read in the laboratory as positive for tuberculosis five months before my visit to his home. After speaking with his wife, I returned the next day to see him; he had given up a day of work to speak with me, no small sacrifice for a peasant day laborer who barely subsisted off his daily earnings. Don Luis had first become ill a year ago, and went to the government clinic, where he received short-course antibiotics that did not cure him. Subsequently he had a severe attack of fever and weakness, and he coughed blood profusely. He was treated by a local healer and then by a private doctor in the neighborhood, who neither cured him nor tested him for tuberculosis. The third time

UNCERTAIN VIGIL: A woman sits in the waiting room of a hospital in Chiapas, Mexico.

he began to cough blood, very ill and afraid of dying, he returned to the government clinic, where he was asked to give sputum samples to be tested for tuberculosis.

When Don Luis returned to the clinic two weeks later to collect the results, he was told that one sample was lost and the others would not have results for several more weeks. He left in anger, feeling that the health services had abandoned him to die. The positive test results were never communicated to the clinic in his city, so no one followed up on his illness. The only relief he had received for his symptoms was a tea made of leaves from a local bush, which he took on a neighbor's advice. He

who dotted the highways less disturbing than the doctors mandate to save lives, seemed not to care for their patients.

had managed to recover from his latest crisis and was now able to work again, despite his constant productive cough. He feared, however, that he would relapse.

After discovering the case of Don Luis, I found a second person whose name appeared in the laboratory record but not in the treatment registry. A colleague and I visited the home of Don Cristóbal in Chacamuc, Oxchuc, an area of semitropical forest. After two hours on the highway, we walked an hour and a half along a wide dirt road to the first houses of his village. From there, with the help of directions from villagers whom we encountered along the road, we found Don Cristóbal and his wife working in their cornfields. It was beginning to grow dark, and we followed the couple to their house in a sudden thunderstorm, covering ourselves in the ponchos that our hosts insisted we take. After perhaps two hours along a tortuous, muddy path through the jungle, we arrived at last at their small wooden shack. There we spoke to Don Cristóbal, ate with his family, and spent the night as his guests before returning to the main city the following morning.

Like Don Luis, Don Cristóbal had gone to the government clinic when he became ill. Wasted and weak with tuberculosis, unable to carry on with the subsistence farming that provided food for himself and his family, he undertook the long walk to a clinic located along the highway, where he gave sputum samples. On the appointed day two weeks later, he returned, only to be told that there were not yet any results. Fifteen days and another journey later, again there were no results. Feverish, skeletal, and coughing blood, Don Cristóbal felt he was going to die. He paid the bus fare to go to the nongovernmental hospital in Altamirano, where he was hospitalized for two weeks. He continued his treatment and was cured, but his travel expenses landed him in a debt he was unlikely to be able to repay.

Life After Death

My original list of tuberculosis patients contained 136 names; of these, I had time during my stay to seek out only 56 patients, most of whom I found. There was the woman in Chamula whom the doctors already knew had multidrug-resistant tuberculosis, and whom they no longer knew how to treat. There was the all-female household in the remote, low-lying, tropical village of Amaquil in Tenejapa, whose sole male relative had died of tuberculosis two months ago. He passed away while taking his second course of treatment from doctors who, according to his paperwork, were not aware that he had already been treated.

The neighbors told me about someone else who was not on my list: an old man in the same village. When we visited him, he cried as he told us that he was too weak to walk to the clinic to replenish his supply of anti-tuberculosis drugs. He knew that no clinic worker would bring them to him, and that he would die of the same disease that had taken his wife from him two years before. I searched for his name in the tuberculosis registries of both major hospitals in San Cristóbal, but it appeared nowhere: no one in the health service knew he existed.

I can only wonder about those whom I was not able to visit. And I can only guess at the impact of tuberculosis—particularly untreated or mistreated tuberculosis—on people who never even saw a doctor, on people who were never listed on the laboratory or treatment registries of the district health service, on people whose treatment was never adequately explained or followed up on by health workers.

I once asked a doctor with years of experience in war zones what he thought the difference was between humanitarian aid and human rights work. In human rights work, he said, your patients remain your patients even after they die. Your responsibility to them obviously changes in nature, but it does not end. Perhaps this is what I have learned, above all, from my summer in Chiapas: to apply this statement to the conditions I saw there, and to understand it emotionally as well as intellectually.

I lacked the knowledge, power, and time to make more than the slightest difference to most of the people I visited. My remembering them now will not bring them back to health or to life. I do not absolve myself of my responsibility, however, because I do not think that morally I can do so. The little that I can continue to do, I will do. Perhaps telling their stories, little though it will bring to them as individuals, might at the very least make known their plight. ■

Anna Flattau '03 is a second-year student at HMS. *The research described in this article was financed by the HMS Office of Enrichment Programs and carried out under the direction of Dr. Héctor Javier Sánchez Pérez at El Colegio de la Frontera Sur (ECOSUR) in San Cristóbal de las Casas, Chiapas, Mexico. Mentorship was provided by Paul Farmer '90. Special thanks to Guadalupe Vargas for her guidance and invaluable friendship.* *The author may be contacted at aflattau@hotmail.com.*

The Long Road

Family tragedy, generosity, and brilliant entrepreneurship all contributed to the inside saga of how the Francis estate provided the land for Harvard Medical School and Peter Bent Brigham Hospital

THE STORY OF HOW HARVARD MEDICAL SCHOOL CAME TO CALL Longwood home traces its roots to the unlikeliest of settings: a battlefield. During the American Revolution, on July 7, 1777, Ticonderoga fell to the British. Exhausted and dispirited members of the 11th Massachusetts militia, who had been involved in the action, retreated east. At dawn, the British attacked and routed the Americans. Mortally wounded in the fierce battle was Colonel Ebenezer Francis of Beverly, Massachusetts, a bricklayer and father of five. Before Francis was buried, a drummer boy passing his corpse pilfered his silver watch, then sold it to a British officer.

to Longwood

by Oglesby Paul

The watch was eventually returned to the widow as a memento of her late husband. In 1859, two of Francis's granddaughters presented it to the Massachusetts Historical Society, where it remains a cherished artifact of the Revolution. Yet it would fall to one of the young orphans Ebenezer left behind to create the most enduring legacy of the Francis family: the Ebenezer Francis estate in Roxbury, chosen at the turn of the twentieth century as the site of both Harvard Medical School and Peter Bent Brigham Hospital.

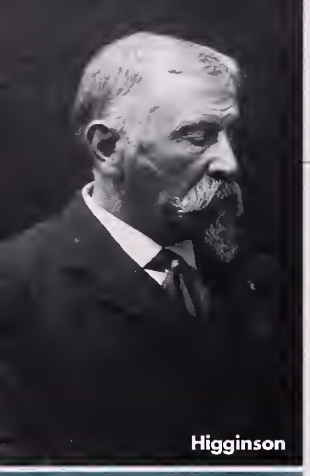
The youngest of Colonel Francis's five children, a son, named Ebenezer after his father, was born in 1775 in Beverly. He was only two years old when his father fell in battle. Growing up in a fatherless household with no breadwinner and little money, Ebenezer moved from Beverly to Boston and, at the age of 11, entered the world of work. He started out in the counting house of a broker who had served in the Revolutionary Army alongside his father.

From this modest beginning, Francis launched a career as a dry goods merchant and eventually became president of a textile firm. He enjoyed considerable success in the world of business and finance, acting as president of two banks and serving as an organizing member of the Massachusetts Hospital Life Insurance Company. As an outgrowth of his business activities, Francis also became deeply involved in Boston-area real estate.

THE LONG VIEW: (Above) Taken in 1878, a view of the Francis estate. (Far left) At the time of his death in 1858, Ebenezer Francis was considered the wealthiest man in New England.

Laying the Groundwork

In the early 1800s, Boston was still essentially an island, an 800-acre tract bounded by the waters of the Charles River and Boston Harbor, except on its southwest corner, where it was linked to the town of Rox-


Higginson


Bowditch


Richardson


Warren

bury by a narrow strip of land appropriately called the "Neck." Between the southern edge of Boston at the Boston Common and the town of Roxbury was the Back Bay, a wet stretch of marsh and flats extending from the Charles River and the site of a frequently and bitterly disputed line between the two communities.

The expansion of businesses and marine shipping, together with an influx of immigrants, brought not only prosperity, but also increasing congestion to the small city of Boston. The desire for space drove Boston's land-hungry politicians and developers to aggressive tactics. They seized every opportunity to grab unused space and, when available plots ran out, they created new land by filling in marshes and flats, which they then sold for a profit.

Beginning in 1855, private investors, and then the commonwealth of Massachusetts, began pouring sand and gravel into the 100-acre watery tract that was the Back Bay. Lots on this new property were sold to citizens seeking homes in an area that was both fashionable and less crowded than Beacon Hill. In 1859, the Massachusetts legislature authorized the annexation of these 100 acres of newly habitable land.

In this new and shifting environment, the real estate affairs of Ebenezer Francis flourished. The old deed books of Suffolk and Norfolk counties reveal an extraordinary amount of buying, selling, and mortgaging of property by this one man, involving hundreds of transactions over the course of nearly six decades. In time, Francis's transactions came to include Roxbury and Brookline, sometimes involving lots described merely as being located on an unnamed "new street." One area in which Francis was particularly active was Gravelly Point in Roxbury, a region slightly north of the future Longwood medical complex.

By 1833, Francis had bought a farm and mansion house in Roxbury and, because of his wealth and prominence, the access to the southern edge of his property was named Francis Street. Although few could have envisioned it at the time, this purchase, of what then was farmland, would represent the first crucial step in establishing the future site of Harvard Medical School and Peter Bent Brigham Hospital.

Crimson Connections

Ebenezer Francis and his heirs would appear unlikely to have been involved in locating a new home for Harvard Medical School. Not only had Francis not attended Harvard, but he had never been enrolled in any college. Yet, just as he had succeeded in his business affairs, Francis also served in important capacities in the key institutions of the Boston community. In 1817, he was elected a trustee of Massachusetts General Hospital, which was still in its planning stages. He went on to serve as chairman of the trustees, as vice president, and, eventually, as president of the hospital in 1836.

Francis also came to play an important role at Harvard College. When the college's finances were plunged into disarray on the watch of a president better suited to scholarly pursuits than to money matters, Francis accepted, at no salary, the role of treasurer. He applied his business acumen to restore order to the college's financial affairs. Although his cost-tightening reforms may not have won him much popularity initially, his reorganization of the college's entire financial structure put it on sound footing for years to come.

Francis made other contributions to Harvard as well. Observing what he considered to be inferior table settings in the dining hall serving the students, he obtained the permission of the Corporation to order from England and personally pay for new table linen, cutlery, and china. He made a number of other gifts, including a clock for the library and contributions toward the observatory, a burial ground in Mount Auburn Cemetery, and the Fund for Assisting Students. In recognition of these and other services, he received an honorary master's degree in 1843.

A New Home for HMS

Francis died rich—indeed, at his death in 1858 at the age of 82, he was considered the wealthiest man in New England, with a personal estate valued at the rather astonishing figure of nearly $3 million and real estate holdings worth an additional half million dollars.

Although Francis and his wife had had seven children, only two had survived into adulthood. Beginning in 1871, Francis's heirs began a burst of purchases along Longwood Avenue to supplement what they already owned. By an 1892 accounting of the estate by the trustees, 33 real estate properties were listed, including the Roxbury farm, 16 parcels on Longwood Avenue, and an additional two on Vila Street in the Longwood area.

The transfer of the Longwood Avenue/Francis Street area from the Francis estate to Harvard happened rapidly when it finally took place. In 1883, Harvard Medical School had moved from North Grove Street to new quarters at Boylston and Exeter streets, both in Boston. Yet this relocation soon proved inadequate for the increased number of pupils, the greater demands for laboratory space, and the consequences of a four-year rather than a three-year course of study.

In 1895, the faculty voted to spend $100,000 in a futile attempt to cope with the space problem. A leading and restless voice at Massachusetts General Hos-

PHOTO: COURTESY OF THE HARVARD MEDICAL LIBRARY IN THE FRANCIS A COUNTWAY LIBRARY OF MEDICINE

MOD QUAD: In 1906, the current incarnation of HMS was dedicated in a ceremony filled with pomp and circumstance.

pital and Harvard Medical School was that of John Collins Warren, an important member of the hospital staff, the Moseley Professor of Surgery at Harvard, and the grandson of the surgeon who had, in 1846, operated upon the first patient to receive anesthesia in a public demonstration. In 1899, Warren approached President Charles Eliot of Harvard with the possibility of calling a special meeting of the faculty to seek purchase of the Francis estate, but Eliot, conscious of cost, replied that he would not do so unless both the current dean, William Richardson, and a former dean, Henry Pickering Bowditch, were in favor—and Richardson was not. (Bowditch was not an entirely disinterested participant in the matter, as his aunt, Elizabeth Francis Bowditch, was the daughter of Ebenezer Francis.)

A remarkable fellow of the Harvard Corporation who had been privy to the discussion about moving the Medical School was Major Henry Lee Higginson, a well-to-do and generous Harvard alumnus and the civic-minded Bostonian responsible for organizing and financing the Boston Symphony Orchestra. Higginson had known Bowditch during the Civil War as a fellow officer in the Union Army. In 1900, Higginson wrote to Bowditch and Warren proposing to organize a syndicate for buying the Francis estate—the same approach that had been used in underwriting Boston's new Music Hall, shortly to be renamed Symphony Hall.

The imaginative intervention by Higginson seems to have been highly effective. A memorandum of agreement was prepared, and a survey of a 26 1/2-acre tract of land bounded by Francis Street on the south, Huntington Avenue on the east, Longwood Avenue on the north, and Vila Street on the west was described. The title was transferred for approximately $600,000 from the trustees of the Francis estate to the syndicate, thanks to the bold initiative of Higginson. It was stated in the memorandum that the president and fellows of Harvard College might purchase the property from the syndicate any time within 57 months of the agreement. Finally, there was appended a list of donors providing collateral in the amount of $570,000.

Through the efforts especially of John Collins Warren and Henry Bowditch, Harvard was soon able to purchase the land from the syndicate and repay the collateral, having received large contributions for the new land and buildings from J. P. Morgan ($1,135,000), John D. Rockefeller ($1,000,000), Mrs. Collis P. Huntington ($250,000), and others. In 1902, Harvard sold at cost 10 1/2 acres of the original tract to the trustees of Peter Bent Brigham's estate to allow for the building of Peter Bent Brigham Hospital. With these transactions, the name "Francis estate" disappeared from public and private records and memory, and the property was quickly transformed into a medical school and a new hospital. ■

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Good Sports: Keeping Athletes in the Game

In the past 15 years, as more and more children have abandoned informal games in their backyards in favor of organized sports, children's sports injuries have been on the rise—injuries such as Little League elbow, which can develop in young players who throw more than 300 overhand pitches per week. In the Boston area, many of these young athletes—in sports from soccer to hockey to the martial arts—end up seeking the help of Lyle Micheli '66, head of the Division of Sports Medicine at Children's Hospital and associate clinical professor of orthopedic surgery at HMS.

Established in 1974, the Division of Sports Medicine was the first children's sports medicine clinic in the country. Only a handful of similar clinics exist worldwide, and most of the physicians staffing those clinics are former fellows of Micheli, who has devoted his career to promoting both general physical activity for everyone and safety for those involved in the intense training of organized athletics.

Micheli notes that when the clinic opened, he treated mainly traumatic injuries; today, most are overuse injuries from excessive training. Children are especially prone to overuse injuries because their bones are still growing—Micheli often sees patients as young as six. "We want kids to be physically active for health, weight control, and psychological development," he says, "but we're still struggling to find the best formula. In fact, the best formula may be a lot of general physical activity and *then* short doses of organized sports."

But the emphasis on organized sports for children is a trend that Micheli says is here to stay. His goal is to make participation in these activities as enjoyable and safe as possible. "One of the disappointments of sports medicine is that when a new activity becomes popular, we go through the same cycle of unnecessary injuries and people needing to be educated," he explains. Micheli believes that this pattern could be significantly changed by the implementation of one relatively simple program: coaching certification. Currently, volunteers who coach young children require none.

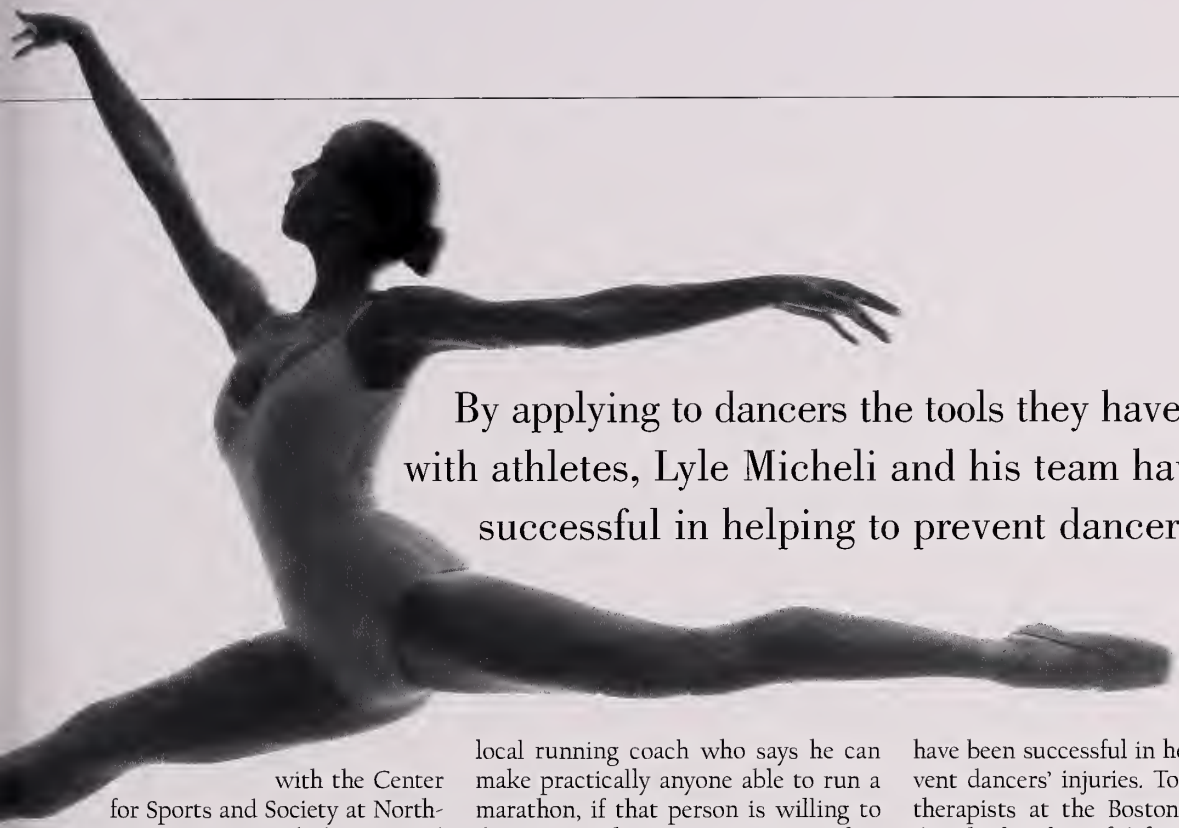
"If you want to go out and become a soccer coach tomorrow, you can," Micheli says. "You may know nothing about soccer, fitness, stretching, or strengthening, but you'll be a soccer coach. I'm not against volunteerism, but there has to be some kind of training."

To that end, Micheli and his team, with the American Red Cross and the U.S. Olympic Association, helped develop a training program for coaches. It's only a 16-hour, weekend course, but in that short time, Micheli says, you can impart a great deal of vital information that will help prevent injuries and allow them to be dealt with effectively when they do occur. Coaches need to learn the risk areas for their sport, the basics of first aid, and how to be responsive to children's complaints. They also need to perceive themselves as being responsible for the health of their young charges.

Micheli aims to make a strong connection between sports and health care. His group recently received a grant from the Robert Wood Johnson Foundation to establish youth sports programs to be based at two community health centers in Mattapan, Massachusetts. Working

PHOTO COURTESY OF CHILDREN'S HOSPITAL, BOSTON

PLAYING IT SAFE: Through education and treatment, Lyle Micheli helps young athletes enjoy a long and healthy relationship with sports.



By applying to dancers the tools they have developed with athletes, Lyle Micheli and his team have been successful in helping to prevent dancers' injuries.

with the Center for Sports and Society at Northeastern University and the Harvard School of Public Health, Micheli hopes the program will encourage coaches to think of themselves as part of a public health intervention.

In Micheli's own life, sports and physical activity have always been important elements. A former football and rugby player, he currently serves on the U.S. Rugby Board, working to promote safety in rugby. "It's a good game," Micheli says, "when properly played." He recently took part in a reunion rugby game. These days he enjoys cycling and fishing; he walks everywhere, including to work, and goes to the gym every day of the week. He's also the proud father of two physically active daughters: the younger is a member of the U.S. women's rugby team; the elder, an environmental scientist, participates in rowing. He is pleased that his daughters have taken to heart the importance of incorporating physical activity into one's daily life for optimal health.

Dramatic Finishes

One popular activity that may not be all that helpful in maintaining general health, however, is marathon running. "Marathoning is a very special athletic event," Micheli says. "You're not doing it for fitness." He cites a prominent local running coach who says he can make practically anyone able to run a marathon, if that person is willing to devote enough time to training. Unfortunately, some people don't devote enough time to training, and that's where Micheli comes in. He has been at the finish line of the Boston Marathon every year since 1975. Back then, about 900 runners ran the race, and there were eight people on the medical team. Now, with 10,000 to 13,000 runners, the medical team numbers more than a hundred doctors, nurses, physical therapists, and athletic trainers.

Micheli and his team generally treat anywhere from 3 to 5 percent of those runners, and in the course of the day start more than 150 IVs. One particularly dramatic finish that Micheli witnessed was that of a man who fell down about five yards short of the finish line, got back up, and staggered across to fall again. "We pulled him under the barrier and saw that his painful leg was about four inches shorter than the other," Micheli recalls. "He had sustained a stress fracture during the course of the race, which broke through five yards from the finish line. He ran the final five yards on a broken and displaced femur!"

Athleticism and drama also meet in another of Micheli's roles, as a consultant to the Boston Ballet. By applying to dancers the tools they have developed with athletes, Micheli and his team have been successful in helping to prevent dancers' injuries. Today there are therapists at the Boston Ballet every day, the first line of defense for dancers who are just beginning to develop problems. In addition, each dancer's physical condition is assessed at the beginning and end of each season, a practice that had never existed before.

Despite his extensive knowledge of the dancers' conditions, however, Micheli is careful to maintain confidentiality; he doesn't communicate with the company administration about their injuries. The dancers are comfortable reporting injuries and getting problems looked at sooner rather than later. "It's been a two-way street," Micheli says of his successful collaboration with the ballet. "The dancers have educated me, and I hope I've educated them."

Such collaborations often yield rich rewards. On a wall in Micheli's office is a framed photograph of a ballet dancer in glorious mid-leap. When she came down from that leap, Micheli explains, she tore her Achilles tendon, a potentially career-ending injury. With Micheli's help and intensive rehabilitation, she recovered from her injury and resumed dancing five months later. In the corner of the photo is the dancer's inscription, thanking Micheli for saving her career. ■

Susan Cassidy is assistant editor of the Harvard Medical Alumni Bulletin.

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